



**CORE COMPETENCY IDENTIFICATION:
PRESCRIPTIONS FOR AIR FORCE MAJOR
COMMANDS TO FOLLOW**

THESIS

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THESIS

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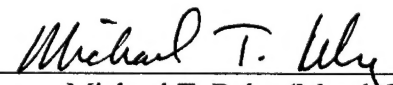
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Richard E. Wells

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Abstract

The purpose of this research was to produce a set of prescriptions that will facilitate the process of *identifying* a USAF command's set of core competencies. Theoretical approaches to outsourcing show the need for an organization to identify its own set of core competencies; however, there seems to be no set way for this identification process to be accomplished. This research will provide critical information to approach this important task. USAF commands that can identify their core competencies (and subsequently act on them) will become leaders in the Department of Defense (DoD), with the potential to reshape the DoD through innovation and creative new defense strategies. As such, the end result of this research effort is USAF commanders are now armed with a decision-making tool that will help them make critical decisions for identifying their command's core competencies.

CORE COMPETENCY IDENTIFICATION: PRECRIPTIONS FOR AIR FORCE MAJOR COMMANDS TO FOLLOW

I. Introduction

Chapter Overview

This chapter provides a background of the current situation in which many United States Air Force (USAF) commands find themselves. It will address the need for major commands to identify a set of core competencies. Core competencies are those “...unique skills, processes, or resources that distinguish a firm and make it unique when compared to other firms” (Monczka, Trent, and Hatfield, 1999:213). Putting an USAF twist to the definition, one might define core competencies as those unique skills, processes, or resources that distinguishes a command and makes it unique compared to other commands within the USAF and its sister services. These core competencies enable a command to continually generate innovative weapon systems and support services, thereby extending it’s warfighting capability. They focus on the coordination of diverse production skills, technology, and knowledge bases within the command.

This chapter also discusses the value of this research effort and the contribution it is intended to make to decision-makers in the USAF. The chapter concludes with a research problem statement and question that will establish the scope of this research effort.

Background

The Cold War is over and a stable environment with a known enemy like the Soviet Union is no longer the situation. Like private companies dealing with the issue of global competition and its effect on the market place, the USAF is facing ever changing threats that it must guard against. Territorial conflicts, terrorism, and information warfare prove that threat boundaries are quickly changing, targeted threats are elusive, and dominance over these threats is at best temporary. Additionally, current funding trends, coupled with the need to rapidly modernize weapon systems in order to remain competitive, are forcing USAF leadership to find new ways to allocate constrained financial resources to the business of waging war. Over the past few years, the USAF has been trying to meet this challenge by strategically applying the theory of competitive outsourcing. "Outsourcing, an approach that is being increasingly used, is the action of subcontracting out certain activities or services" (Meredith and Shafer, 1999:24). Within the USAF, the outsourcing activities would include aircraft components, weapons systems, and maintenance service from the outside supplier. To effectively use outsourcing as a business tool, the command first needs to identify its core competencies.

Once the command has identified its core competencies, it then can focus its resources on them, leaving the non-core competencies of the organization to Non-USAF suppliers (Quinn and Hilmer, 1994:1). Through strategic partnering with these non-USAF suppliers, a command can outsource its non-core competencies with relatively minor disruptions. By then placing emphases on the commands core competencies, a commander can leverage his or her command's capability (e.g., knowledge, skills and assets) for increased effectiveness, with the end goal of providing the USAF and its sister services with the value they demand.

Additionally, this new era of joint operations demands that leaders create an organization capable of infusing weapon systems with irresistible functionality and interoperability. As stated in Joint Vision 2020: "The joint force, because of its flexibility and responsiveness, will remain the key to operational success in the future. The integration of core competencies provided by the individual services is essential to the joint team, and the employment of the capabilities of the Total Force" (Joint Vision 2020, 2000: 2). As such, in the year 2000 and beyond, top USAF leadership will be judged by their ability to identify, cultivate, and exploit core competencies that provide value to the customer and will make their command the one at the end of the communication line when the Joint Force Commander comes calling.

Why Worry About Core Competencies?

Recently, much attention within the DoD has been focused on this issue of outsourcing. Some see a trend developing where an increasingly larger percentages of the outside suppliers are performing missions that were once considered a military services' specific core function. Outsourcing has been creeping in from functions that are non-core in nature to ones that are core. "In the past, core functions were defined as those requiring military of organic capability because it was combatant in nature, required potential deployment into harms way, or required the capacity to expanded (surged) in times of crisis" (Zamparelli, 1999:13). For example, certain technologies and specific skills, such as depot maintenance. In his 1999 article, Colonel Steven J. Zamparelli, provides examples of this operational creeping. Colonel Zamparelli, stated, that during Desert Shield and Desert Storm, "The Air Force had contractors flying in support of the Joint Surveillance, Target Attack Radar System (JSTARS), as well as performing theater organizational maintenance (Pg.13). He further quoted another author, Lieutenant General Heiser, from a 1990 article, stating that "During Operation Just Cause, a total of 82 contractors were in Panama to support aviation assets" (Pg.13).

One of several issues arising from the use of competitive outsourcing is the concern that if outside suppliers are unable or unwilling to perform their jobs in a real contingency situation (i.e., wartime), the defense of our nation could be compromised. The problem lies then in addressing the risk associated with competitive outsourcing -- especially for those functions that are considered core or on the periphery of one of a core competency. To minimize this vulnerability and make the most of the outsourcing

potential, the USAF must address this uncertainty. “The greater the uncertainty of the supplier relationship, technological developments, and/or physical availability of those items, the more important supply management becomes” (Kraljic, 1983:110). A command must stay preeminent in its core competencies. Therefore, based on the levels of uncertainty with certain supplier relationships, some instances may call for a command to perform some activities where it is not the best. This will keep existing or potential adversaries from learning, taking over, or eroding the command’s core competencies. It is important that USAF leadership consciously develop their command’s core competencies and strategically impede its adversaries from gaining access to the valuable knowledge base or skills critical to these core competencies. The first step is ensuring the commands know precisely what their core competencies are.

Research Contribution

This research will produce a set of prescriptions that will facilitate the process of *identifying* a set of core competencies. Theoretical approaches to outsourcing show the need for a firm to identify its own set of core competencies; however, there seems to be no set way for this identification process to be accomplished. This research will provide critical information to approach this important task. USAF commands that can identify their core competencies (and subsequently act on them) will become leaders in the Department of Defense (DoD), with the potential to reshape the DoD through innovation and creative new defense strategies. As such, I would suggest that USAF commanders

realize that making a decision on what their core competencies are is vital to their command's future success.

Problem Statement

As USAF commands build their strategic plans, they should systematically identify their position with regard to their core competencies. In turbulent and often chaotic environments, the Air Force commands must *identify*, develop, and nurture their core competencies. This current environment (not unlike the global competitive environment that commercial firms find themselves) mandates that the USAF commands make a concerted effort to not allow their core competencies to become static.

The problem lies in the process of how an organization identifies its own set of core competencies. Assuming that the competitive outsourcing strategy is the correct path to take in the Air Force, each command must struggle through this process in order to remain effective. Therefore it is imperative that commands have an objective and systematic way of identifying their core competencies.

Research Question

The fundamental question is, "How does a USAF command identify its own set of core competencies?" The intent of this research was to develop a set of prescriptions by which an USAF decision maker can identify a command's core competencies. This was

accomplished by exploring the way that several private firms approached this task. By conducting a scientific examination of alternate approaches, future USAF leaders will be better informed and able to tackle the challenge of identifying these core competencies.

Summary

This chapter provided an overview of the current dynamic, uncertain, and budget-constrained environment in which USAF major commands find themselves. Like private companies dealing with the issue of global competition and its effect on the market place, the USAF is facing ever-changing threats against which it must guard. Consequently, in order to meet this challenge, the commands must look inside, and figure out where their core competencies lie.

This chapter also discussed how decision-makers in the USAF are attempting to use competitive outsourcing as a way to thrive in this new environment. If this strategy of competitive outsourcing is to succeed, the commands must first go through the critical process of identifying their own set of core competencies. This research provides a set of prescriptions that will provide USAF leaders with a comprehensive and objective method to use when conducting a core competency identification process.

The remainder of this research report is divided up into four chapters. Chapter II is a review of the current literature as it pertains to an organization's strategy of using competitive outsourcing, and how core competencies are one of the key aspects for its strategic planning. Chapter III will provide the research methodology used for

conducting the collection and analysis of data from the five companies chosen to participate in this research effort. Chapter IV will provide the detailed analysis of the data collected, with the final presentation of the core competency identification prescriptions to be provided in Chapter V.

II. Literature Review

Chapter Overview

This chapter is intended to provide a basis of knowledge for understanding the importance of the problem statement associated with this research. The chapter begins with a discussion of the fundamental theoretical knowledge behind formulating a business strategy. Then a discussion on competitive outsourcing theory and supplier partnerships will be presented, both concepts are key to the success of the company's overall business strategy. The chapter's focus then moves to an understanding of the importance of identifying an organizations core competencies, with a discussion of why integrating core competency identification into outsourcing decisions is critical to the competitive success of the organization. The chapter will conclude with a set of investigative questions that will guide the researcher as the research effort is undertaken.

Formulating Strategy

Strategy is a plan designed for carrying out the mission and arriving at a set of strategic objectives. "In general, a well-conceived strategy addresses three areas: *distinctive competence*, scope, and resource deployment" (Griffin, 1999:232).

Formulating strategy is a very difficult activity. "Nevertheless, the following guidelines provide an introduction to key aspects of the process, see table 1 (Yukl, 1998:429). This

research effort will focus on the distinctive core competency portion of strategy formulation. As previously stated, an organizations core competencies "...are those unique skills, processes, or resources that distinguish a firm and make it unique compared to other firms" (Monczka, Trent, and Hatfield, 1999:213). Griffin further states that a "distinctive competence is something the organization does exceptionally well" (pg. 232).

Table1. Guidelines for Formulating Strategy, (Griffin, 1999:233)

- Determine long-term objectives and priorities
- Assess current strengths and weaknesses
- **Identify core competencies**
- Evaluate the need for a major change in strategy
- Identify promising strategies
- Evaluate the likely outcomes of a strategy
- Involve other executives in selecting a strategy

This research effort will deal with this competence issue at a corporate-level. The strategy at the corporate-level typically deals with a set of strategic alternatives that an organization chooses from as it manages its operations concurrently across several Strategic Business Units (SBUs). Even though most organizations "...develop business-level strategies for each industry or market, they also develop an overall strategy that helps define the mix of industries and markets that are of interest to the firm" (Griffin, 1999:233). The majority of the companies participating in this research effort were large companies. Most large companies organize themselves around SBUs. These organizations operate several different businesses, making and selling products that are often very diverse. "Virtually all larger business in the United States used related diversification" (Griffin, 1999:246). A major strength of using this related diversification

approach is the synergy that is gained by the complementary strengths and capabilities that span more than one of the SBUs.

Outsourcing and the Core Competency Approach

Advantages and Disadvantages. Whether an organization performs a task itself or relies on the supplier market depends on the relative benefits and costs. Many, but not all, organizations today find that they can save money and gain competitiveness by having outside organizations provide services that they originally performed – this divestiture of activities is known as outsourcing. As stated earlier, outsourcing is an organization's action of purchasing (contracting) a component, assembly, or service from an outside supplier. However, some warn that all too often, "outsourcing decisions are based exclusively on a single motivating factor (e.g., cost)" (Gover and Teng, 1993: 34). The wise organization will outsource only non-strategic (non-core), simple, relatively standard products or services that are not worth the organization's time to produce or accomplish by itself. Leaving the complex, proprietary products or services (core) that give the organization an edge in the market place to be accomplished internally. As an organization outsources more of its activities, including design, production, and marketing, there may be little left in its core. "Critics of outsourcing have decried the "hollow" corporation because it has forgone internal efforts to become more effective or efficient. As a company purchases more supplies and services from outsourcing partners, it may forget how to produce anything of value itself. The hollowest organizations may

have outsourced even those functions that were responsible for their previous success” (Robey and Sales, 1994: 253).

The Strategy. The current point-of-view is there are “two strategic approaches – when properly combined – that allow decision-makers to leverage their companies skills and resources well beyond levels available with other strategies” (Quinn, 1994: 43). First, organizations should concentrate and develop their own personal set of “core competencies.” By identifying these core competencies, the organization can protect itself from becoming a “hollow” organization. Identification of core competencies will lead an organization into developing a strong set of core capabilities. The DoD defines a core capability as an activity operated by a cadre of highly skilled employees, in a specialized technical or scientific development area, to ensure that a minimum capability is maintained (OMB Circular No.A-76, Revised 1999). After the determination of this core capability, the organization needs to follow it up with strategically outsourcing most, if not all, of the other activities -- to include many activities that have traditionally been considered inherently part of the firm’s core function. For example, is performing maintenance on Air Force Space Command’s (AFSC) transportable MILSTAR control vehicles really a core competency for AFSC? If not, outsourcing theory would support the competitive contracting out of what seems to be (relatively speaking) a routine operation of simply maintaining a commercial equivalent communication vehicle.

At this stage the decision-maker must focus on vertical integration, which necessitates the need to look at the transaction costs of outsourcing to a contractor and all risks associated with the potential supplier(s). Going back to the MILSTAR example, would the transaction costs associated with contracting-out this requirement cost less than

maintaining all of the infrastructure and personnel to accomplish the so called routine mission? Even if it is routine, will contracting it out erode any of AFSC's core competencies? If the transaction costs are low, then outsource or privatize, but if they are high keep in-house. Here again the identification of core competencies is critical to the command's mission strategy.

Current Air Force Approach. USAF competitive-outsourcing efforts are accomplished by using the A-76 study. Unlike commercial organizations, the USAF decision-makers must pass through extra wickets when making the decision to competitively outsource a particular mission. These wickets include determinations with regard to two unique concepts: inherently governmental activity and core capacity (see Figure 1). The A-76 study is derived out of the President's Office of Management and Budget (OMB) circular A-76. The Office of Federal Procurement Policy (OFPP) states:

- (1) An *inherently governmental activity* is one that is so intimately related to the exercise of the public interest as to mandate performance by Federal employees only (OMB Circular No. 76, 1996: 3), and
- (2) *Core Capability is the* minimum core capability of specialized, scientific or technical in-house or contract employees and related commercial workload. This core capability may be maintained, without cost comparison, to ensure that the Government has the necessary capabilities to fulfill its mission responsibilities or meet emergency requirements" (OMB Circular No. 76, 1996: 3)

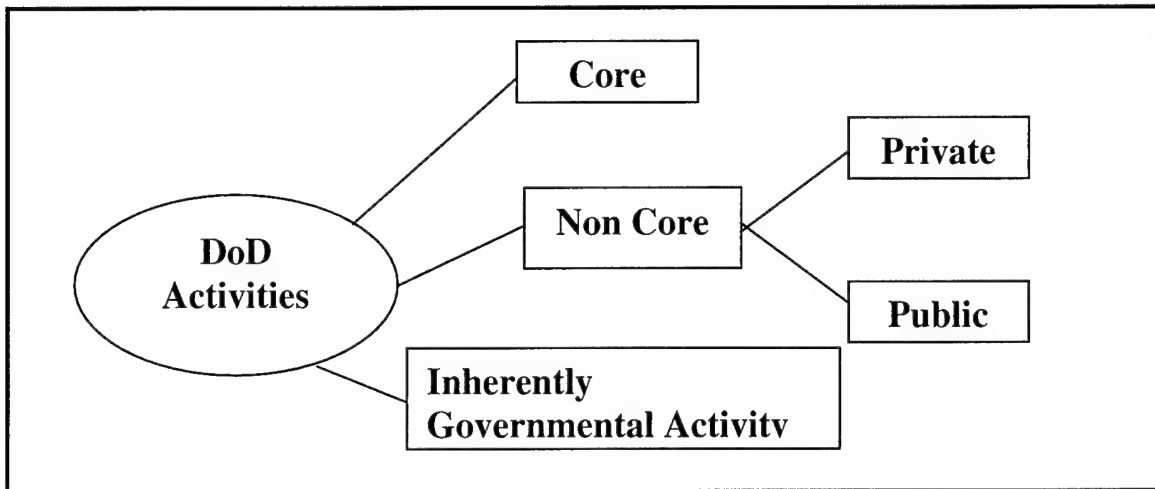


Figure 1. The DoD “Traditional” Outsourcing Approach (Camm, 1996: 3)

Barriers to A-76. According to a recent AFIT thesis, “Statutory restrictions have played a factor in limited success of A-76 studies” (Hackman and Nemceff, 1999: 3). These restrictions have hampered “what functions are subject to the A-76 process, who has the authority to initiate an A-76 review, and how much time may be taken to complete the reviews. Timeliness, up-front costs, and reporting requirements have also discouraged A-76 actions” (Defense Science Board, 1996:43). As far as the managerial problems go, the government tends to get itself in an adversarial relationship with the private contractors because of the culture that they are operating in. The contractor is motivated by profit and the government feels the need to implement more governance over the contractor. It really boils down to the relationship or trust that the government must have in the contractor and conversely the trust that the contractor must have in the government. However, the complexity (caused by current regulations and statues) and the cost of these relationships coupled with the fact that a supply or service is closely

associated with an organizations core competencies may produce much debate among DoD decision-makers facing many of the troublesome outsourcing decisions.

Supply Chain and its Relationships is Key. Outsourcing decisions are made everyday in private organizations, as well as within the USAF -- the decisions affect the logistics systems within the organizations. The logistics of an organization cannot be discussed without directing the conversation to concepts on supply chain management and partnerships. "Successful supply chain management relies on forming strategic partnerships with trading partners along the supply chain..." (Ellram and Cooper, 1990:3). From a leadership/management standpoint, one must try to acquire resources without creating an excessively difficult dependency on an outside supplier. This resource dependency theory perspective maintains that a firm's vulnerability is partly determined by the extent to which the firm has come to depend on the external resources for effective operation of certain internal functions (Pfeffer and Salancik, 1978: 46). However, during this period of limited budgets and increased outsourcing, this task may prove to be too difficult, and managers will need to develop synergy through close relationships with their key external suppliers. Whenever an organization must procure a volume of critical supplies or services competitively or under more complex noncompetitive conditions, the management of these relationships becomes relevant. The greater the uncertainty of the supplier relationship, technological developments, and/or physical availability of those supplies or services, the more important management of the supplier will become (Kraljic, 1983: 110).

Prahalad and Hamel's 1990 landmark article also drove home the importance of developing collaborative relationships. The article pointed out that NEC "shifted

enormous resources to strengthen its position in components and central processors. By using collaborative arrangements between multiple internal resources, NEC was able to accumulate a broad array of core competencies.” This did not stop at its internal resources; NEC “...entered into a myriad of strategic alliances – over 100 as of 1987 – aimed at building competencies rapidly and at low cost.” (Pg.80). The benefit of this approach was seen in NEC’s ability to derive competitiveness from its competency to produce its products with increased innovation, lower costs, and with more speed.

Regrettably, the current government bureaucratic procedures that are in place impede the development of trust, which is critical to the success of these relationships (Ellram, 1991:14). This discussion is just scratching the surface of the complex relationship between the government and its contracting partners – a fertile ground for future research efforts.

Increased Competitiveness through Core Competencies. An organization’s competitiveness derives from its core competencies and core products (Prahalad and Hamel, 1990:79). Prahalad and Hamel include in their definition of core competency the “capacity to *coordinate* diverse production skills and further integrate them with the company’s “streams” of technology” (Pg.82). They discuss the need to identify core competencies, which in turn will be used to provide access to a wide variety of markets. Prahalad and Hamel propose that success can only be achieved through the organization’s innovation, knowledge, and expertise that can be derived from the application of its available knowledge to its business processes. The combination of these factors creates the critical potential of an organization, and is termed core competencies. The theory discusses the idea that core competencies must also contribute to customer benefit and be

difficult for competitors to imitate. Additionally, lessons need to be learned from alliances with suppliers and how organizations internally develop their core competencies. Prahalad and Hamel theorize that an organization will need to identify and use core competencies as a way to prevail in this new era of global competition.

Competencies not Businesses. Prahalad and Hamel's research also discussed how NEC perceived itself as a corporation with a portfolio of competencies. On the other hand, corporations like GTE were observed as having a portfolio of businesses. The senior line managers continued to act as if they were managing independent business units. The article discussed decentralization as GTE's major problem that kept them from developing their core competencies -- it could not integrate its knowledge and skill, across all of its business units. This shortcoming probably crippled GTE's ability to implement a sound strategic purchasing and supply-chain management process.

Increased Competitiveness. Prahalad and Hamel used an analogy of a value-tree when it came to competitiveness (see Figure 2). The model as seen below, ties the corporation's competitiveness to its core competencies. Prahalad and Hamel suggested that a diversified corporation is a large tree. The trunk and major limbs are the core products, the branches are business units and the leaves are end products. The root system that provides nourishment, sustenance, and stability is the core competency. This is where Prahalad and Hamel defined core competence as "collective learning in the organization, especially the capacity to coordinate diverse production skills and further integrate them with the company's "streams" of technology." Prahalad and Hamel cautioned organizations, by saying that they can miss the strength of their competitors if

they focus only on the end products -- a corporation should not think of its competency as its end products.

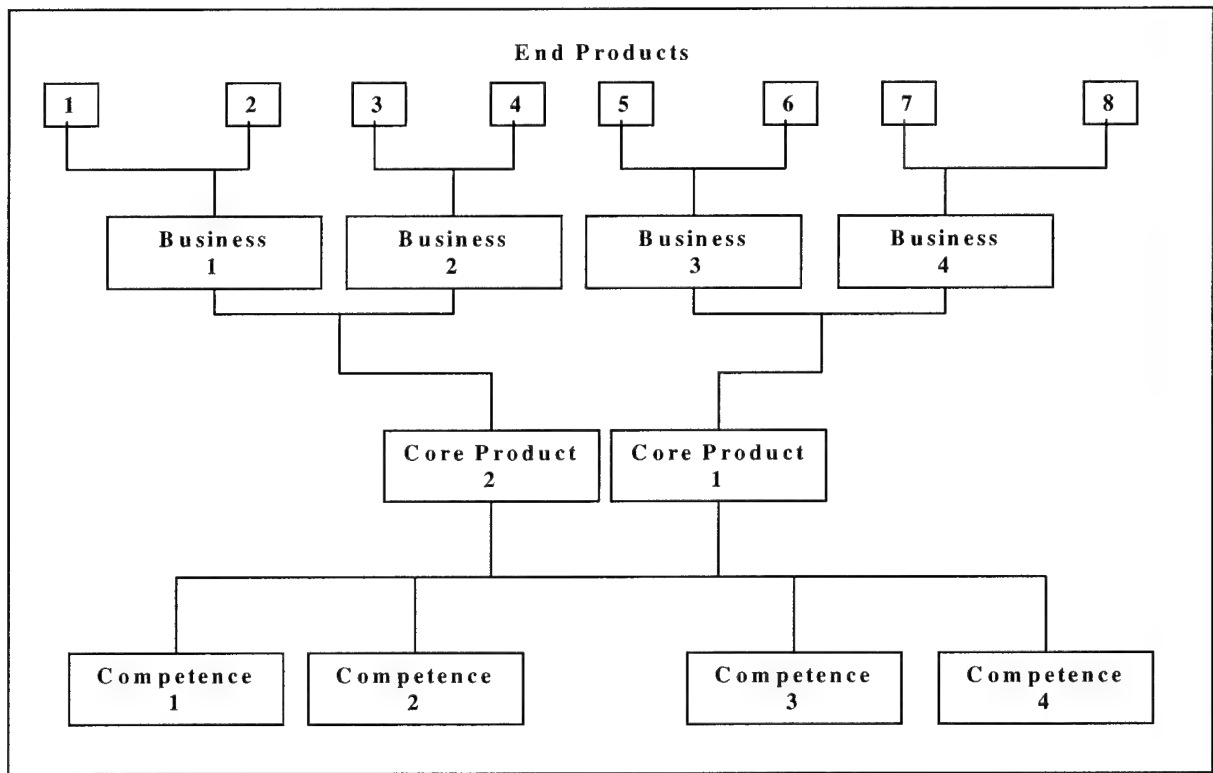


Figure 2. The Root of Competitiveness (Prahalad and Hamel, 1990: 81)

Prahalad and Hamel provided a short discussion on identifying and losing core competencies. The identification process basically entailed three questions:

1. Does skills/technology provide potential access to a wide variety of markets?
2. Does the skill/technology make a significant contribution to the perceived customer benefits of the end products?
3. Is the skill/technology difficult for the competitors to imitate?

Prahalad and Hamel pointed out that few corporations build world-leadership in more than five or six fundamental competencies. They also brought out the point that

“Outsourcing could provide a shortcut to a more competitive product, but it typically contributes little to building the people-embodied skills that are needed to sustain product leadership” (Prahalad and Hamel, 1990: 84). Prahalad and Hamel also stressed that it is impossible for a organization to have an intelligent alliance or sourcing strategy if it has not made the critical choices about what its competencies will be.

Prahalad and Hamel addressed what they considered going beyond a corporations core competency to its core products. The core product is made up of a physical embodiment of one or more core competencies. Again, this principle of core products ties right in with supply-chain management. A corporation can have a relatively low market share of the end products -- however, at the same time, it can be the market share leader for its core product. One example might be a company that has a low market share for air-conditioning and refrigerator business (end product), but provides virtually all the compressors for all brands of the end product. The large market share will provide the corporation with leverage in the supply channel, giving it the opportunity to provide input “up front” in new product development. Ultimately enabling the corporation to keep its core product in the final design of the end product.

Investigative Questions

Based on the above literature review the researcher developed the set of investigative questions listed below. Theses investigative questions kept the research on track during the exploration of the five case study participants core competencies

identification process. Therefore, in the companies that were studied the following questions were used:

Investigative Question 1. “How much influence does an organization’s knowledge of its industry have on its core competencies?”

Investigative Question 2. “How does the value a customer places on a key characteristic of an organization’s supply or service lead to the identification of core competencies?”

Investigative Question 3. “How should an organization’s skill sets be viewed when identifying its core competencies?”

Investigative Question 4. “How does a firm’s supplier base effect how it views its core competencies?”

Investigative Question 5. “How much does the history and evolution of the organization effect the identification of its core competencies?”

Summary

If change is the norm in this new global environment, Air Force organizations will need to develop dynamic core competencies that can be used to catapult effective weapon systems and services onto the battlefield at an increase speed. Identifying their command’s core competencies will help USAF leaders make the important strategic decisions facing them on the horizon. The awareness of these core competencies will provide them with the insight needed when making strategic decisions. The decisions

include outsourcing and the partnerships which are needed in order to make the decisions successful. These core competencies will be hard to identify and develop. However, once they are in place they will be able to be nurtured and upgraded. As Prahalad and Hamel suggest, one of the ways of building and sustaining these core competencies is to harvest the wellspring of knowledge and skills by integrating them with multiple streams of technology from among the organizations. While at the same time, providing value so that their command is the one at the end of the customer's communication line.

III. Methodology

Chapter Overview

There are many definitions for “research design” (methodology), but no one definition imparts the full range of important aspects. This research paper will use the following definition: research design constitutes the blueprint for collection, measurement, and analysis of the data (Cooper and Schindler, 1998:130). This chapter explores the possible research methodologies for conducting this analysis of data, collected from the firms chosen to participate in this research effort. Next, an argument will be established for the particular strategy used for this research and the theoretical approach behind it. Lastly, a discussion of qualitative case study research is presented.

Strategy Selection

Early in any research effort, one faces the daunting task of determining the specific research approach he or she wishes to use. A number of different design approaches exist. Unfortunately, no simple classification system defines all of the variations that are available for the researcher to use. However, Robert K. Yin in his book entitled “Case Study Research – Designs and Methods,” provides an excellent classification system for budding researchers to follow. Yin discusses three conditions

that will help the researcher determine when to use each strategy (Yin 1994: 4). The three conditions are:

- (1) the type of research question posed;
- (2) the extent of control an investigator has over actual behavioral events; and
- (3) the degree of focus on contemporary as to opposed historical events.

Table 2. depicts the foundation for Yin's system, to select an appropriate research methodology. It covers five of the major research strategies in the social sciences: experiments, surveys, archival, analysis, histories, and case studies.

Table 2. Relevant Situations for Different Research Strategies

Strategy	Form of Research Question	Requires Control Over Behavioral Events?	Focuses on Contemporary Events
Experiment	how, why	yes	yes
Survey	who, what, where, how many, how much	no	yes
Archival Analysis	who, what, where, how many, how much	no	yes/no
History	how, why	no	no
<i>Case Study</i>	<i>how, why</i>	<i>no</i>	<i>yes</i>

(Source: Yin, 1994:6)

The first and most important condition for differentiating among the various research strategies is to identify the research questions to be asked. The form of the research question chosen for this research effort was a "how" question: "How does a firm identify its own set of core competencies?" "How" questions are more explanatory

and lead to the use of case studies, histories, and experiments as the preferred research strategies (Yin, 1994: 6). Looking at the research question in view of the extent of control the investigator had over the actual behavioral events led to the determination that control over the behavioral events was not an issue; therefore, eliminating a strategy of using experiments. In addition, the research question focused on a contemporary event as opposed to a historical one -- much emphasis has recently been placed on the identification and nurturing of a firm's core competencies as part of its overall business strategy. Therefore, after going deeper in the selection of the methodology, an analysis shows that

- (a) the research question is a how-type question, and
- (b) the researcher had no control over the considered events, and the focus is on a contemporary occurrence, then
- (c) according to Yin, the recommended strategy is the case study (Yin, 1994:4-9).

Case Study Strategy

Yin states that "although the case study is a distinctive form of empirical inquiry, many research investigators nevertheless have disdain for the strategy" (Yin, 1994: 9).

However, if the case study is done properly, it will provide the rigor, objectivity, and generalization that are necessary for a meaningful study.

First, the definition of a case study needs to be addressed. In his 1994 book, Yin quotes another case study advocate, Schramm from a 1971 work:

The essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result. (Yin, 1994:12)

This research effort has in fact illuminated a set of decisions that the participating firms made in regard to identifying their own set of core competencies. Yin further states that a case study is an empirical inquiry that:

- a) investigates a contemporary phenomenon within its real-life context, especially when
- b) the boundaries between phenomenon and context are not clearly evident (Yin, 1994:13).

In the current global environment, it is suggested that top management's most important present-day activity is to identify, develop, and protect its firm's core competencies, which will be needed to successfully execute its business strategy. Therefore, this research effort will meet the above criteria of investigating a contemporary phenomenon. The real-life context was provided by the numerous investigations of the participating firms. In addition, the field-research flavor of this effort and case study approach provided coverage of the contextual conditions that exist in modern firms.

Case Study Design

The above discussion has identified the fact that this effort will utilize the case study strategy, as opposed to other strategies. The next logical task is to design the case study. "Every type of empirical research has an implicit, if not explicit, research design, and as such, connects the empirical data to the study's initial research question and, ultimately, to its conclusions" (Yin, 1994: 19). Yin further provides the following as a definition of research design: "a research design is an action plan for getting from *here* to *there*, where *here* may be defined as the initial question to be answered, and *there* is some set of conclusions" (pg. 19). Yin presented four types of case study design that will be discussed (Figure 3).

	<u>Single-Case Design</u>	<u>Multiple-Case Design</u>
Holistic (single unit of analysis)	Type 1	Type 3
Embedded (multiple unit of analysis)	Type 2	Type 4

Figure 3. Basic Types of Designs for Case Studies (Yin, 1994: 39)

The primary distinction in designing case studies is between single- and multiple-case designs and whether the unit(s) of analysis is holistic (single) or embedded (multiple) (Yin, 1994: 38).

Single-Case Study. There are three rationales to support for conducting a single case research effort (Yin, 1994: 40). First; circumstances include cases that are considered critical to a particular theory; second, a situation that represents an extreme or unique case, and; third, a revelatory case.

Multiple-Case Study. There are advantages and disadvantages to the multiple-case design when compared to the single-case design. The most pronounced advantage is that the evidence gathered from a multiple-case design is considered more impressive, therefore the study is regarded more vigorous. A disadvantage, as defined above, is when the case being studied is critical, unusual/rare, or revelatory; therefore the effort will likely only involve the single-case design.

Holistic/Embedded. Likewise, as shown in Figure 2, case studies can employ either a holistic or an embedded design. A holistic approach is used when there is only one unit of analysis. Embedded case studies occur when a single study includes multiple units of analysis.

Selected Approach

Yin proposes five components of the case study research design (Yin, 1994:20-32); namely, study question, propositions, unit analysis, logic linking the data to the proposition, and criteria for interpreting the findings. Like a blueprint for the researcher, these components help keep the effort on course. Following is a brief discussion of each of the components in the context of this research effort:

Study Question. The research question presented previously in Chapter I is exhibited in terms of a “how” question, which coincides with a case study approach.

Propositions. The propositions direct attention to something that should be examined within the context of the research effort. They form the structure that allows the researcher to explore the case studies for what he or she is looking for. “The meaning we acquire for a given concept is formed from the composite of propositions we know that contain the concept” (Novak, 1998:40). The set of research questions introduced in Chapter II were adopted as the propositions for this research effort.

Investigative Question 1. “How much influence does an organization’s knowledge of its industry have on its core competencies?”

Investigative Question 2. “How does the value a customer places on a key characteristic of an organization’s supply or service lead to the identification of core competencies?”

Investigative Question 3. “How should an organization’s skill sets be viewed when identifying its core competencies?”

Investigative Question 4. “How does a firm’s supplier base effect how it views its core competencies?”

Investigative Question 5. “How much does the history and evolution of the organization effect the identification of its core competencies?”

Unit of Analysis. The unit analysis for this case analysis approach was one, how a firm went about identifying its core competencies. The unit analysis of one should not be confused with the multiple-case study of the several different commercial firms used. The multiple case studies were used as a replication technique.

Logic Linking the Data to the Propositions, and Criteria for Interpreting the Findings.

These are the two remaining components of the research design. Both conform to the data analysis phase of this case study research effort. This design uses the pattern matching approach to explaining the data gathered. The design will look for patterns in the core competency identification process and the related actions oriented to successfully produce the product of that process. Data gathered during this study was predominately interview material, which included numerous audio tapes or typed transcripts of these tapes. It was difficult to analyze these records and find patterns or regularities that could help the researcher understand how and why firms were identifying their core competencies. Other researchers have tried different ways to organize these types of data by developing concept words and propositions. Joseph D. Novak, in his book, "Learning, Creating, and Using Knowledge," with the help of his research group came up with the idea called "concept mapping" (Novak, 1998:26). The coding of the case data collected for this research effort was accomplished using a process similar to Novak's concept mapping, known as mind mapping (Buzan and Buzan, 1994:57-59). This technique was designed to allow the researcher to use radiant thinking, which Buzan and Buzan refer to as mind mapping. Once the data was collected, it was organized in order to effectively analyze it. The data was coded using 3 steps during the analysis (Strauss and Corbin, 1990:61,96,116):

- (1) Open coding. A process of breaking down and conceptualizing the data. In this research effort, this step involved a within case analysis of each of the five companies that participated. To visualize this process, a mind-map for this research effort was developed based upon the Buzan & Buzan mind-mapping concept.
- (2) Axial coding. The process of conducting a cross-case analysis of the five case studies.
- (3) Selective coding. This involved identifying whether any of the data was found throughout each case.

In mind mapping, ideas branch out in all directions from the central idea. These new branch-ideas then become the center of a new mind map in which it is the central idea. This technique was key in organizing the data gathered from each of the cases studied. Using this mind (concept) mapping technique allowed the researcher to develop the set of prescriptions that helps explain the core competency identification phenomena under study in this research effort (See Appendix A for the central mind map used).

Using a holistic multiple-case approach appears to be feasible given this widely publicized and accepted step in developing a successful business strategy. Figure 4 is an illustration of the multiple-case study approach that was used for this study:

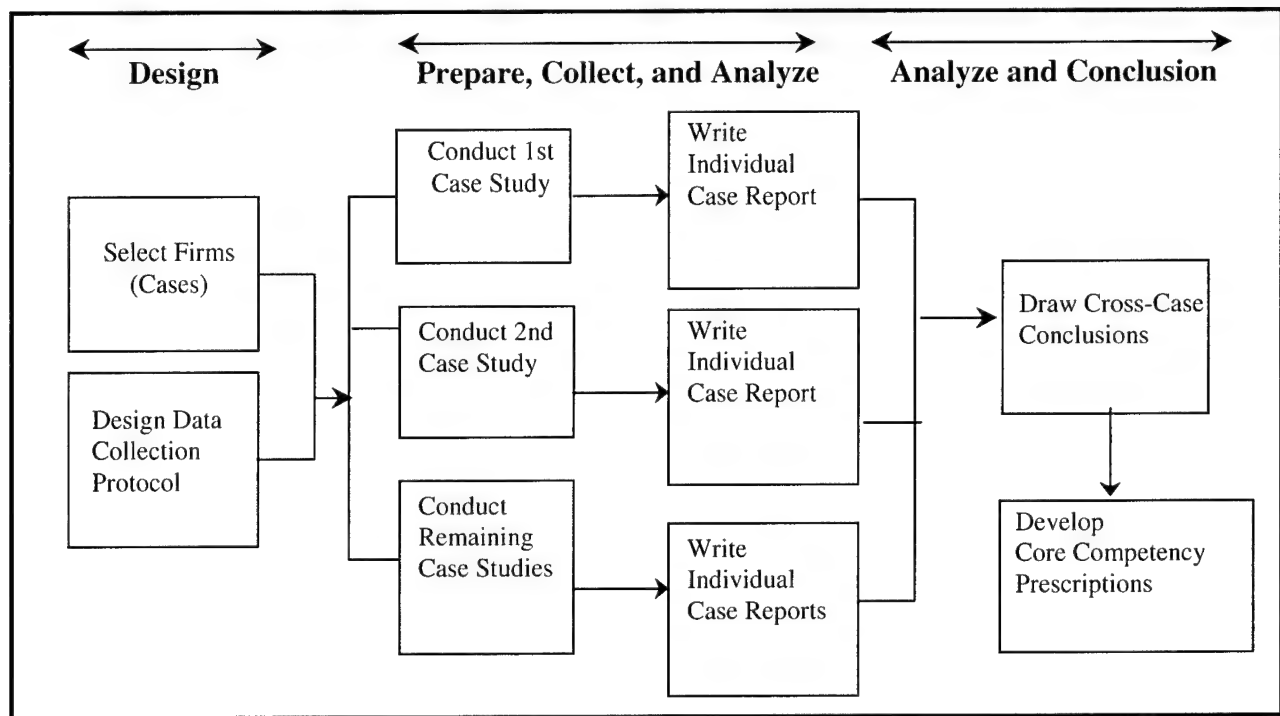


Figure 4. Case Study Design (Adapted from Yin, 1995:49)

Selecting Cases. The selection of cases for this research was done by a non-random method. The population for this research was all commercial firms in the United States. However, the number of cases that the researcher was able to study was limited due to time and cost constraints. “[s]election of an appropriate population controls extraneous variation and helps to define the limits for generalizing the findings” (Eisenhardt, 1989:537). Therefore, in selecting the number of cases in this multiple case design, the researcher tried to balance the minimum requirements for generalizability with the constraints mentioned previously. Firms selected for these case studies were selected according to the following procedure. First, a preliminary exploration determined a list of potential candidates from which information about their core competencies was reasonably available. Second, from that subset of firms, specific choices were taken according to the rationale of selecting a set of firms that developed a spectrum of firms

from large complex conglomerates to small ones. In most instances six to ten cases will provide sufficient data to build a robust case study research effort (Yin, 1995:46). This thesis contains five different cases.

Data Collection

The two main sources of data utilized in this research effort were documents and interviews.

Documents. Several types of documents were analyzed. Among the documents were official policy and procedures as well as company briefings and publications dealing with their core competencies. These documents also included general market and financial reports. The purpose of obtaining the preceding documents was to provide information to the researcher that would facilitate a familiarization with the general industry and key businesses of the participating firms.

Interviews. The researcher used a combination of structured interviews and focused discussions as the interview technique to elicit the knowledge desired from the experts interviewed. A structured interview is an interview where the interviewer asks the same questions in every interview conducted. This technique is used when consistency across interviews is important (Cordingley, 1989:114). The structure will also help in identifying patterns in the collected data. In order to maintain structure, a field visit interview guide was developed by the researcher (see Appendix B). The set of structured questions addressed during the interviews is as follows:

- 1) Has your firm developed a systematic approach to identifying core competencies?
- 2) What are your firm's core competencies?
- 3) What percentage of these core competencies do you consider to be firm tradition ("we have always done this, so it must be a core competency")?
- 4) What is your firm doing to look at its businesses from top to bottom and making an assessment of performance and strategic fit, with regard to the core competencies?
- 5) What types of personnel are involved in identifying your firm's core competencies?
- 6) Do you elicit input from your customers in determining what they value most from acquiring your supply or service?
- 7) Did your firm use consultant resources when identifying its core competencies? Other outside resources?
- 8) Does your firm rely heavily on outsourcing (A firm's action of purchasing a component, assembly, or service from an outside supplier)?
- 9) Do you outsource any part of a particular core competency?
- 10) Do you evaluate your competitors' core competencies? How do the findings effect what your firm considers as its own core competencies?

The guide was e-mailed to each participant a few days prior to the field visit so that he or she would know precisely what information would be elicited by the researcher. This advance notice also allowed the participant to gather additional individuals to participate in the interviews as well as retrieving any documentation he or she wished to share. Since the researcher was seeking any information that pertained to the research problem (How does a firm identify its own set of core competencies?), interviews with the participants were allowed to flow back and forth from the structured interview to focused discussion. Focused discussion is a technique that is characterized

as “introspective” due to the fact that it allows the expert to think critically about the subject at hand. The main difference between structured interviews and focused discussion is that its focus is on a specified subject within the domain of interest, rather than specific questions (Cordingley, 1989:117-118). The researcher used this focused discussion in order not to suppress or inhibit the exchange of information.

Criteria for Evaluating Research Quality

Like all social research, case studies need to protect against poor design quality. There are four tests applicable to case studies: construct validity, internal validity, external validity and reliability (Yin, 1995:32-33).

Construct Validity. First, a conscious effort was made during data collection to raise evidence about the same fact from multiple sources of evidence. Second, after the individual case reports were written, they were sent back to the primary participants to review for accuracy. In addition, one of the primary participant’s peers also reviewed the report and the comments and clarifications were incorporated back into the individual case reports. This allowed for triangulation of data sources where the researcher compared observations from different sources to arrive at the correct analysis (Yin, 1995:92). Third, chains of evidence were built to make possible the double checking of the relationships between the case study database and the conclusions of the research effort.

Internal Validity. In an effort to establish a causal relationship, this research used pattern matching to help show that certain conditions lead to other conditions. Yin suggests that for case study analysis, one of the most desirable approaches to pursue is a pattern-matching logic (Yin, 1995:106).

External Validity: Replication by means of a multiple-case study design was used to combat external validity threats. Emphasis was placed on findings that were common to two or more cases or firms.

Reliability: Creating a case study protocol and database that other researchers can use to repeat the process and arrive at the same conclusions controlled this threat.

Summary

In summary, core competencies are those unique skills, processes, or resources that distinguish a firm and make it unique compared to other firms. Core competencies provide the basis for developing new products and services for all types of firms. Therefore, this phenomenon of identifying a set of core competencies is not unique to one particular firm. This research paper's main methodology thrust was a multiple case study designed to develop a model that can help USAF commands develop their own set of core competencies. This chapter explored the possible research methodologies for conducting an analysis of data collected from the firms chosen as participants. It explained the theoretical perspective behind the use of multiple case studies and it established the rationale and provided support for using such strategy as the preferred

methodology. Chapter IV is an across-site analysis of the general finds that emerged from the with-in case analysis for each of the five cases studied fro this research (See Appendix C). Chapter IV also concludes with the presentation of several prescriptions that guide them through the process of identifying command core competencies.

IV. Analysis

Introduction

This chapter is going to address the emergent ideas - regarding identification of core competencies - that were discovered in the across-case analysis from all five cases. The majority of these ideas will be discussed following the basic structure established by the five research questions.

1. How much influence does an organization's knowledge of its industry have on its core competencies?
2. How does the value a customer places on a key characteristic of an organization's supply or service lead to the identification of core competencies?
3. How should an organization's skill sets be viewed when identifying its core competencies?
4. How does a firm's supplier base effect how it views its core competencies?
5. How much does the history and evolution of the organization effect the identification of its core competencies?

The information was gathered from each of the five individual cases using an open coding mind (concept) mapping technique, see Appendix C. Then, an axial coding technique (comparing ideas across-case) was accomplished -- also using the mind maps. In the axial coding phase, the five main information areas (plus an additional idea area named "other") were placed in the center of the map, with the main information gathered from each of the five companies radiating from the center point. These six individual

mind maps (5 from the research questions and 1 from the “other” area) are not presented in this thesis; however, Table 3 provides a summary of the data across all five cases.

Table 3. Summary of Findings Regarding the Key Areas of Information

	Company A	Company B	Company C	Company D	Company E
Industry Knowledge	Core Competencies stem from its industry knowledge Led to company's success Meet needs for changing market	Led to the identification of its core competencies Allowed the company to enter into competitive and international markets	Led to the identification of its core competencies Led to knowing how to meet market needs not just particular products	Key to its core competency identification process	Industry Knowledge as lead to success
Customer Value	Value customer placed on its products/services key to its core competency One-on-One informal feedback	Provides reason why customer is willing to stay with company Focus Groups Surveys Account Managers	Getting feedback on why they come back as repeat customers can identify core competencies Brainstorm sessions with customers	Internal, as well as external feedback is an excellent way of determining what a company does best	It can identify core competencies by evaluating what customer values Surveys Third party evaluation
Skill Sets	Key to company's core competency	skills can contribute to identifying core competencies Unions	significantly contributed to identifying its core competencies	Skill sets add to/impact its stated core competencies	Skill sets are key to competences

Table 3. Summary of Findings Regarding the Key Areas of Information (continued)

	Company A	Company B	Company C	Company D	Company E
Suppliers	Outsource non-core Outsource some vital skills essential to core competencies	Outsource non-core Outsourced core competency when a SBU capacity unable to meet demand	Outsource non-core	Outsource non-core SBUs can outsource any function Partnerships increase the effectiveness of its core competencies	Outsource non-core Outsource core competency during peak
History and Evolution	Core competency is a direct result of founder's desire to meet market niche Industry has changed but core competency remains the same	Company merger provided all capabilities that needed for its core competencies SBUs provide evidence of core competencies	Caution must be used, but can help with core competency identification	Merger without a doubt contributed to stated core competencies Success in the market place linked to efficiencies gained by merger	Can be traced back to the company's origin
Other	Upper-Level management makes all the core competency decisions Assets help with identifying core competencies	Assets are a good indicator of core competencies Interviewing techniques identify strengths in SBU Process ownership Senior Management "off sites"	Consultants can help facilitate the core competency identification process Cross functional senior leadership typically identify its core competencies	Consultants Benchmarking Strategic Reviews Partnerships Business Development Unit Assets are a good indicator of core competencies	Awards/Recognitions Excellent way of identifying core competencies Looking at assets can support core competency identification

As previously mentioned, this chapter's discussion will focus on "other" things that the researcher found that were not anticipated by the research questions. The data obtained from analysis of these company's largely confirms the literature's view on the characteristics of core competencies. However, one of the things found that is counterintuitive is the notion that a company's assets (working as an enabler) can be an excellent predictor of its core competencies. Therefore, the chapter will discuss both the confirming data and the significant area of disagreement, as well as other information that the researcher felt was worthy of discussing.

As the researcher analyzed the data using the selective coding process the majority of the emergent ideas begin to gravitate together and form three main fundamental focus areas: value, technology, and partnerships. Additionally, through the analysis, there were three ideas that surfaced that pertain to the organization. These three ideas will help companies/command execute their core competency identification process -- the three ideas were grouped into one focus area: execution. The remainder of this chapter will be devoted to looking at each of the four focus areas in more detail.

Focus Areas

Value. This section will discuss the analysis of the data as it emerged in terms of how core competencies can be identified when looking at the value (in view of its mission) an organization's history and evolution provides, as well as the value the organization's products or services provides its customers.

History and Evolution. The literature cautioned companies about locking themselves into a position - with regards to core competencies - based solely on the fact of having years of tradition in a certain area..." (Monczka et al, 1998:213). The cases studied for this research effort supported the literature in this area. However, based on the case study data, looking back at the history and evolution of the company was a contributor to identify core competencies. All five companies felt that their stated core competencies were influenced by the history and evolution of their companies. Company C's interviewee did however state that it is important for a company to not get caught up in the trap of defining its core competencies as the service it provides or the product it produces – "once upon a time Company C defined its core competencies in just that way". Additionally, Company D's interviewee suggested that the merger that formed the company was without a doubt the single biggest contributor to the companies stated core competencies of refining, logistics, and marketing. Company D reported that the merger had allowed a synergy to form which developed into its current core competencies.

Customer Value. The literature suggests, a core competency makes a significant contribution to the value that the customer places on a company's end product or service; all companies should normally have at least one core competency that relates directly to understanding and serving their customer (Quinn and Hilmer, 1994:46 and Prahalad and Hamel, 1990:84). Five out of five companies that were participants in this research all suggested that by gathering customer input on the value that the customer places on their respective product or service was key to helping them identify their core competencies. For example, four out of the five companies participating in this research effort used

formal means (i.e., survey's, brainstorming sessions, and focus groups) to gather the desired information on their customer's perception on how much their companies product or service provided value to them. The remaining company used informal means only, but reported that it used the data to help it identify its core competency as well.

Technology. This section will discuss the analysis of the data as it emerged in terms of how core competencies can be identified when looking at the core technology of the organization. "Technology is the conversion process used to transform inputs (such as materials or information) into outputs (such as products or services)" (Griffin, 1999:359).

Knowledge of the Industry. As established in Chapter I, one fundamental characteristic of all core competencies is that they evolve over the years to provide a company with integrated solutions for an increasingly complex and dynamic environment. "Competencies thus involve activities such as product or service design, technology creation, customer service, or logistics that tend to be based on knowledge..." (Quinn and Hilmer, 1994:45). All five of the company's that participated in this research effort supported the fundamental idea that core competencies stem from industry knowledge. For instance, Company A stated that its market (injection molding processors using high performance materials) is ever changing, even to the point that certain metals are being experimented with. Company A's interviewees suggested that its current engineering and manufacturing knowledge of the automotive industry would obviously benefit the company as it changed to meet these new market niches. Additionally, Company B's interviewees stated that the company's energy related technical knowledge has allowed it to enter the international energy market -- providing the ability to enter into new markets is another key characteristic of a core competency.

Skill Sets. Decision makers, "...need to look beyond the company's products to the intellectual skills or management systems that actually create a maintainable competitive edge" (Quinn and Hilmer, 1994:45). Additionally, the literature also states, "[T]he real sources of advantage are to be found in management's ability to consolidate corporate wide technologies and production skills into competencies that empower individual businesses to adapt quickly to changing opportunities" (Prahalad and Hamel, 1990:81). Again, all five companies interviewed supported the theory that they could and had identified their core competencies by taking into consideration their corporate skill sets. For instance, Company A's core competency was "Problem solving in the use of high performance materials." As such, the interviewees reported that Company A has processing technicians on their shop floor that have skills "three cuts above" those found in other processing companies. The interviewees suggested that these skilled individuals are essential if the integration efforts of design, tooling, processing and materials technology are to culminate in providing the service and parts needed to meet difficult applications using high performance materials -- the company's core competency. Additionally, Company D reported that the skills that its union, engineering and marketing employees bring to the company can be directly linked to its core competencies of refining, logistics, and marketing.

Assets. The information provided by four out of five of the companies participating in the research effort suggested that company assets (intellectual or physical) can play a key role in the identification of core competencies. This is counterintuitive to the literature reviewed in Chapter II on core competencies. "Competencies thus involve activities such as product or service design, technology

creation, customer service, or logistics that tend to be based on knowledge rather than on ownership of assets or intellectual property...” (Quinn and Hilmer, 1994:45). “Another characteristic of a core competence is that it should be difficult to imitate” (Prahalad and Hamel, 1990:84). For example, Company A was the only company that did not state that its core competency could be identified by looking at its physical assets. Even though the company’s core competency - problem solving in the use of high performance materials - was clearly dependent on the injection molding equipment that produced the company’s final products. The machinery could easily be purchased by another company which in turn could start competing against it. Company A’s core competency rested firmly in it’s skill sets not in physical assets as witnessed by the fact it outsourced 70 percent of it’s tool making processes (reference Appendix C).

However, by going back to the literature and looking for support for this counterintuitive finding, the researcher was able to find literature that would support the use of assets in determining core competencies. “When we consider the concept of core competencies, it is important to recognize that not all parts or activities are equal. Rather, activities and parts can be thought of as falling on a continuum ranging from strategically unimportant to strategically important” (Meredith and Shafer, 1999:24). The authors further suggest that activities are considered strategically important when “they require highly specialized physical assets, and few other suppliers possess these assets” (Pg.24).

The research also provides other examples that would suggest that core competencies can be identified by assets. For instance, Company D’s interviewee suggests that the company’s assets can contribute to identifying the company’s core competencies. Its refineries, terminals, pipelines, and transportation assets provide for

the company's success; which in turn enabled the company to have the core competencies of refining and logistics. The large capital investments required to acquire a large modern refinery, as well as any property rights for land to place pipelines across are enormous. Additionally, the interviewee stated that company's current assets have become even more important because of recent environment laws -- the entry barriers that any competitor faces in this industry are very high hurdles to scale. Additionally, Company E reported that its establishment of a national support center as a center of excellence for training and customer support efforts, directly supports its core competencies of service and support.

USAF Asset Evidence. With the emergence of this counterintuitive finding, the researcher considered two public-private partnerships within the USAF to further explain and/or support the finding. The information for these two cases was obtained from General Accounting Office reports – for methodology see GAO reports cited below.

The first case was the San Antonio (Kelly, AFB) engine maintenance depot source selection. The USAF awarded the contract to the public offer proposed by the Oklahoma City Air Logistic Center (OC-ALC), OK. OC-ALC chose Lockheed Martin Kelly Aircraft Company (Lockheed) as its principal partner. Lockheed is using the San Antonio facilities transferred by the USAF to the Greater Kelly Development Corporation (GKDC) and leased by GKDC to Lockheed. Lockheed, is performing most of the work at San Antonio. During the competition the private sector offeror, Pratt & Whitney, proposed to perform most of the work on the engines at the San Antonio facilities, also to be leased from GKDC (GAO Report NSIAD-99-155, 1999:33-34).

The second case was the Sacramento Depot maintenance source selection, the USAF awarded the contract to the public offeror, Ogden Air Logistic Center (OO-ALC), Utah. OO-ALC is performing the commodities work and A-10 aircraft work at its facilities in Utah. Additionally, the KC-135 aircraft work is being performed by the Boeing Aerospace Corporation at the Boeing Aerospace Support Center located at the closed San Antonio ALC at Kelly Air Force Base. Boeing is also using the San Antonio facilities that have been transferred to the GKDC and leased by GKDC to Boeing. The private sector offeror, Lockheed, had proposed to perform all of the work at the closing Sacramento ALC at McClellan Air Force Base, where the workloads had been performed by government employees. The Sacramento ALC facilities were transferred by the USAF to Sacramento County. Under the Lockheed proposal, the facilities would be leased by the county to Lockheed (GAO Report NSIAD-99-124, 1999: 33-34).

As stated above, the procurements were both competitive action. The assumption the researcher makes is that for either of the offers to gain the competitive edge and win the award, they would have to perform the specific maintenance activity internally -- usually cheaper, better, or with some unique competence (e.g., best value). It could be argued that the USAF and its private partners all had a core competency of aircraft maintenance (engine or airframe) which provided them the advantage and ultimately the contract awards. Furthermore, it can be inferred that they could not have performed the maintenance tasks without the specialized facilities and equipment that were only available at either of the USAF depots. The partnerships that were forged in these two cases is a perfect place to discuss the next main focus area.

Partnership. This section will discuss the analysis of the data as it emerged in terms of how the concept of core competencies can be addressed when looking at strategic partnerships with trading a company's partner. "A partnership will work only if it is beneficial to both parties" (Ellram, 1991:14). As will be discussed below, competencies that a particular company is seeking in a partnership can be a key indicator to the partnering company on what it is doing best.

Partnering. Although only one of the five companies that were studied reported that it could use partnerships as a way to identify and develop core competencies, the researcher thought it was important enough to mention anyway. By evaluating what each of the partners brings to the arrangement is a good indication on what a company is doing well (core competence). For instance, Company D was using a three-way partnership arrangement to connect several pipeline networks. Company D and the other partners could not complete the new pipeline network needed for a particular market without the partnership. The interviewee stated that the agreement reached will protect and even increase the effectiveness of its logistic core competency by combining it with other companies logistics competencies in the partnership.

Supplier Base This research effort supported the literature's notion that a company should concentrate on its core competencies and outsource non-core competencies. Without exception, the companies interviewed for this research effort stated that they outsource the majority of products or services that do not have an effect on their core competencies. As can be seen by the across-case analysis, the majority of the firms acknowledge the fact that they occasionally outsourced products and services that had a direct impact on their core competencies -- usually during peak operating times when

their company's capacity was stretched to the limit. Outsourcing can provide a shortcut to a competitive product or service, but it typically contributes little to building the skills that are needed to sustain that product or service (Prahalad and Hamel, 1990:84). Several of the companies also stated that they typically use some sort of legal means to protect their core competencies.

Execution. This section will discuss the analysis of the data as ideas emerged in terms of certain organizational techniques that can be adapted to facilitate the core competencies identification process.

Process Ownership (Individual or Team). In their landmark article, "The Core Competence of the Corporation," Prahalad and Hamel stated, "[W]e believe that senior management should spend a significant amount of its time developing a corporatewide strategic architecture that establishes objectives for competence building" (Pg.89). They further suggested, that decentralization makes it difficult to focus on core competencies (Pg. 81). The data gathered at two of the companies that participated in this research supports the literature on this concept. Company B reported that it had difficulty in identifying and developing its corporate wide core competencies, largely due to the fact that its business units were acting autonomously. Additionally, although Company D did not specifically assign the identification or building of core competencies as a specific function of its business development operating unit, the SBU was tasked with identifying and recommending economical/strategic value added opportunities for the company to pursue. Because of this broad picture, which the SBU was able to obtain during these assessments, the interviewee stated that over time the tendency to use external sources to perform certain services or deliver certain products led to an understanding on what the

company was or was not doing well (i.e., core competency identification). The process owner does not necessarily have to be one individual, it can, and based on the research, should be a cross-functional team made up of senior managers.

Senior Management offsite/Planning Meetings. Without exception, all of the cases revealed that the majority of core competency decisions at their companies were made by senior management. Company's B and D added that the decisions must be based on information that is solicited from throughout the company at varying levels. Company C's interviewee further stressed these ideas by placing importance on the fact that the evaluation should be conducted by a cross section of the company's senior leadership. The company suggested, it is not just general management, strategic planning, engineering, or business development, it is a cross section that allows the company to look at different disciplines and perspectives, helping the company with identifying and developing its core competencies -- all the departments must get together. The interviewee suggested that interactions amongst the skilled individuals in different functional departments often develop unexpected insights or solutions to management decisions, like identifying core competencies. In addition, Company D's interviewee stated that the company's senior managers (during strategic reviews) basically used a process that somewhat follows the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis; its revised business models evolve out of this process, which continues to focus on efficiencies, core competencies and overall "value added" business opportunities.

Consultants. As already stated, core competency decisions are strategic in nature. Additionally, based on this research effort, core competence decisions are typically always made at the senior management level. Support from a variety of internal or external consultants can sometimes be required to apply the variety of disciplines needed to plan and oversee a strategic review which includes core competency identification efforts. This can be done through resources internal or external to the company. For example, Company B used outside consultants to help facilitate senior management offsite where many of the decisions on its core competencies take place. Also, the company had developed an expertise in its strategic development support unit that could accommodate senior management during offsites and other planning meetings. Additionally, Company D's interviewee stated that the company uses consultants to benchmark off its competitors in the petroleum industry -- the company addresses each individual segment of the market. This benchmarking led the company to a better understanding of what it was doing well (core competencies) and what it is not doing well with respect to its competitors.

Summary

This chapter has been a cross-site analysis of the emergent ideas from this research effort. Through the analysis certain ideas emerged that adapted well into four focus areas: value, technology, partnerships, and execution. The analysis of these four areas provided the support for the development of a set prescriptions that USAF decision makers can use to guide them through the process of identifying command core

competencies. Chapter V will present the core competency identification prescriptions. The final chapter will also discuss significant findings drawn from this analysis, limitations of this research, and recommendations for future research.

V. Prescriptions, Findings and Conclusions

The DoD is continuing to pursue competitive outsourcing strategies in an effort to acquire efficiencies and to make better use of its shrinking funding profile. A fundamental tenant of outsourcing, as supported throughout this research, is the notion that an organization should identify its core competencies and then strategically outsource most of, if not all, the remaining activities -- this research effort's problem statement stems from this concept. The intent of this research was to provide USAF leaders with a set of prescriptions to identify their command's core competencies. This was accomplished through a literature review and the case study approach that explored the way in which five private companies approached the task of identifying their core competencies.

This chapter will conclude with a discussion on several of the emergent ideas that were developed during the analysis, as well as limitations, and suggestions for further research.

Prescriptions for Core Competency Identification

Many strategies are available for organizing a model. Therefore, following Tom Peters work in his book, *Thriving on Chaos*, the researcher turned his attention to developing several statements or prescriptions. Prescriptions are simply a lists of suggested actions based upon the literature reviewed for this research effort, as well as

the practices that were observed in the five cases studied during this research (Peters, 1987:55). These prescriptions will help USAF decision makers identify their command's core competencies. The first three sets of prescriptions include seven fundamental prescriptions: two Value Prescriptions, three Technology Prescriptions, and two Partnership Prescriptions (see table 4):

Table 4. Core Competency Identification Prescriptions

<u>Value Prescriptions</u>
(V-1) Evaluate the commands mission from a <i>historical and evolutionary</i> viewpoint
(V-2) Develop an understanding of <i>the value</i> your command provides to its customers
<u>Technology Prescriptions</u>
(T-1) Evaluate your command's specific <i>knowledge</i> base across all levels of the organization
(T-2) Identify your command's key <i>skill sets</i> , intellectual and management systems
(T-3) Identify all highly specialized or heavily regulated command <i>assets</i>
<u>Partnership Prescriptions</u>
(P-1) Evaluate any command Public-Private <i>partnerships</i>
(P-2) Evaluate <i>suppliers</i> that are perceived to be vital to achieving your command's mission

Table 4. Core Competency Identification Prescriptions (continued)

<u>Execution Prescriptions</u>
(E-1) Establish a <u>process owner</u> – individual or team – for identifying core competencies
(E-2) Regularly conduct <u>senior management offsite/planning meetings</u> to focus on core competency identification
(E-3) Use <u>consultants</u> – internal or external – to help with the core competency identification process

Recall, from the pervious chapter, that the investigative questions and the data covered from the “other” area discussed several ideas that support the above prescriptions. Several of the prescriptions were based on a number of core competency characteristics that were drawn from the literature reviewed and subsequently supported by the five “private-company” case studies. However, the last set, three execution prescriptions, emerged as the case study data was collected and analyzed. USAF major commands that are seeking to identify their own set of core competencies can use this last set of prescriptions to execute their organization’s core competency identification process.

Findings

The majority of core competencies characteristics, that were drawn out during the literature review, were confirmed during the analysis that was conducted in the previous chapter. Therefore, all of the ideas discussed in Chapter IV will not be specifically addressed again in this chapter. However, there are five interesting research findings that evolved from this study that will be discussed. First, there was a heavy reliance on customer value for the identification of what a company was doing well, this would suggest that customer values are key to core competency identification. Second, the cases support a need for a dedicated process owner, responsible for core competency identification. Third, the majority of the cases supported the idea that core competency identification must be accomplished through the use of a cross-functional team of senior management within the company. Forth, which is counterintuitive to the literature reviewed for this research effort, is the idea that evaluating the company's assets can lead to identification of core competencies. Finally, a short discussion on how the company's suppliers can have an effect on its core competencies will conclude this section of the chapter.

Customer Value. This is without a doubt the number one characteristic that the case study participants point to when identifying, developing, and sustaining their company's core competencies. This observation supports the long standing recognition that measures of service-levels are important in evaluating a company's performance. The analysis that was conducted in Chapter IV would suggest that there is a strong relationship between what the company's customer perceives as the key characteristics

(in terms of value) of its product or service to what the company can identify as one of its core competencies. It can then be inferred, that core competencies are those bodies of expertise, company skills, and systems, which are perceived by the commands customers (users) as providing exceptional value.

Process Owner. The analysis of the case studies included in this research would seem to suggest that most of the companies lack a process owner for identifying and developing core competencies. If a particular business unit's decision maker acts independently, the business unit will tend to develop a dependence on outsiders for critical skills. This research would suggest that by providing for a "process owner," the decision maker will be able to identify, as well as cultivate, and exploit his or her command's core competencies, by looking across all areas of the command. The process owner, an individual or a team, could use the following management technique to accomplish its responsibility.

Senior Management offsite/Planning Meetings. Without exception, all of the cases revealed that the majority of core competency decisions at the participating companies were made by senior management - mainly on a cross-functional level. This researcher would suggest that USAF commands could accomplish this undertaking by tailoring the concept of Integrated Product and Process Development (IPPD), which has been adapted by the DoD acquisition community . "IPPD is a management technique that simultaneously integrates all essential acquisition activities through the use of multidisciplinary teams to optimize the design, manufacturing, business, and

supportability processes” (DoD, Guide to Integrated Product and Process Development 1996: 6). Secretary of Defense (SECDEF), William J. Perry, implemented IPPD in 1995:

“...I am directing a fundamental change in the way the Department acquires goods and services. The concepts of IPPD and IPTs shall be applied throughout the acquisition process to the maximum extent practicable.”

(SECDEF Memo of 10 May 1995)

The guide also stated, “At the core of IPPD implementations are Integrated Process Teams (IPT)...” (Pg.5). The IPT is the essential element for accomplishing this fundamental change that is taking place within the DoD. The IPPD guide further states that, “IPTs are cross-functional teams that are formed for the specific purpose of delivering a product for an external or internal customer” (Pg.12). IPT membership includes, but is not limited to, individuals that represent technical, manufacturing, business (e.g., contracting and finance), and support organizations (e.g., test and evaluations) that are charged with developing, procuring, and supporting the USAF products. It is suggested that the USAF commands could use this IPPD/IPT concept to effectively identify its core competencies.

Assets. As Quinn and Hilmer suggest in their 1994 article, “Strategic Outsourcing,” competencies involve activities that tend to be based on knowledge rather than on ownership of assets or intellectual property (Pg.45). However, the case studies analyzed in this research effort provided ample empirical evidence that this may not always be the case. So the question that arises is: are the companies looking at their assets wrong or is the literature on this subject limited? The answer is, it depends. Clearly, no sustainable competitive advantage is provided by a resource that is easily duplicated. The research

would also suggest that assets in and by themselves will not provide complete evidence to point to one of a company's core competencies. The assets are strictly enablers for a company to recognize the potential of a core competency. Therefore extreme caution must be used when trying to identify core competencies from an evaluation of a company's assets -- whether intellectual or physical. The assets that will provide insight into a company's core competencies must be highly specialized intellectual and physical assets that few other suppliers could possess. Therefore, sustainable caution is required when addressing this research finding.

Suppliers. The information gathered during this research supports the contemporary outsourcing approach to "make-or-buy" decisions -- outsource supplies or services that are non-core competency related. The data gathered during this research effort suggested that the companies were allocating their resources accordingly, which further supports the theory that insourcing and outsourcing decisions are of a strategic nature. Therefore, it can be inferred that these decisions reflect where the commands senior management believes it possesses a level of core competence.

Limitations

One of the key limitations of this study resides in the reduced number of cases analyzed and the scarce amount of written material in some of them. Resource limitations imposed by a single researcher limited the study to just five cases. If enough resources could have been devoted to this effort, the number of cases could have been

increased until saturation developed. For example, only Company D provided information supporting the concept of evaluating different partnerships to help identify its core competencies. If enough cases could have been included, the research might have continued until these individual subtleties were no longer evident. With only five cases included in this research, it is not apparent whether additional time and expense could have provided additional significant insight.

Although some measures to offset the threat to both validity and reliability were taken, it is difficult to measure precisely either of the two in qualitative research efforts. The literature review suggested that some of the research validity and reliability lie in the qualification of the researcher. The researcher in this effort received formal training through a graduate level class in social research methods. The researcher had no prior experience with qualitative research projects.

Future Research

With respect to the concept of core competencies and how they effect the outsourcing decisions, the researcher suggests that future researchers investigate the idea of “loss of control over suppliers.” As the USAF continues down the road of competitive outsourcing, the risk of the outside supplier’s priorities not matching the USAF’s could conceivably start to surface. As stated earlier in this research, one of several issues arising from the use of competitive outsourcing is the concern that contractors may be unable or unwilling to perform their jobs in a real contingency situation (e.g., wartime).

Therefore, the problem lies in addressing the risk associated with competitive outsourcing -- especially when outsourcing functions that are considered core or on the periphery of a core competency.

Other national security risks could develop out of this outsourcing approach. Unless the USAF's core competencies are truly walled-off from the outside suppliers - after building up their expertise with the USAF's help - they could conceivably attempt to bypass the USAF and go directly to one of their adversaries with the newly acquired expertise. Therefore, the following proposition could be considered in future research efforts: "Are there satisfactory legal and operational ways of protecting a USAF command's core competencies in this era of competitive outsourcing?"

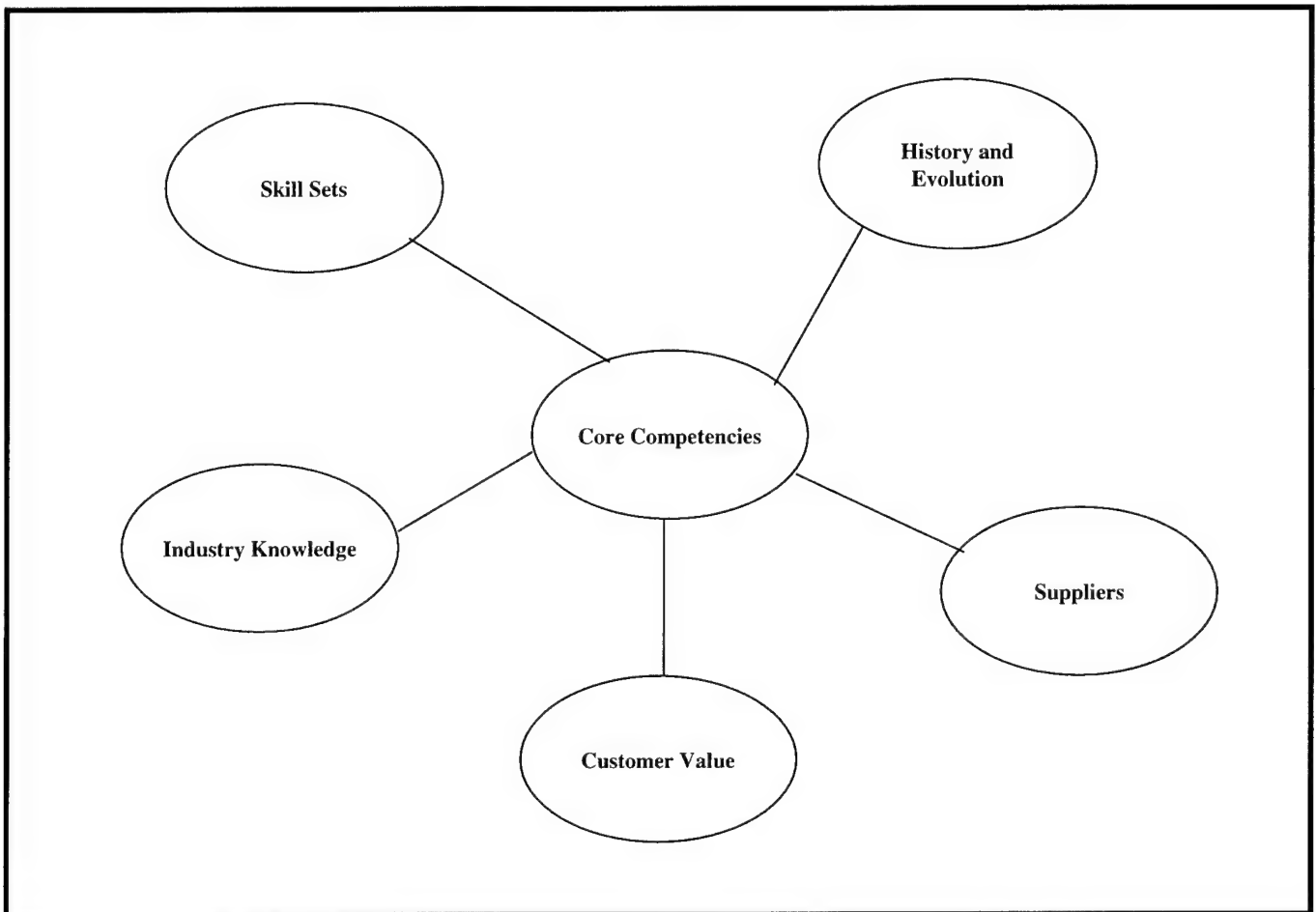
Conclusion

As suggested by Meredith and Shafer, when USAF commands "...considers their core competencies, they must recognize that not all parts or activities are equal. Rather, activities and parts can be thought of as falling on a continuum ranging from strategically unimportant to strategically important" (Meredith and Shafer, 1999:24). This research did not attempt to provide advice on what the different core competencies of the USAF command should be, but rather only to provide an approach to identifying current core competencies.

The researcher hopes that the set of prescriptions developed as a result of this research effort will be of use to USAF decision makers facing the daunting task of

identifying a set of core competencies for their commands. Admittedly the prescriptions should be subject to further research; however, the researcher believes it is a useful starting point from which to embark upon the competitive outsourcing voyage.

Appendix A. Central Mind-Map



Appendix B. Interview Guide

Purpose of Research

The purpose of this research is to add to the body of knowledge on organizational core competencies. Current literature places much emphasis on the need for firms to identify their own set of core competencies. Core competency refers to a skill, process, or resource that distinguishes a firm and makes it unique compared to other firms -- Core competencies are skill and knowledge sets, not products or functions.

Interview Questions

Even if your firm does not use the term core competency, please answer the following questions with my definition in mind:

- 1) Has your firm developed a systematic approach to identifying core competencies?
- 2) What are your firm's core competencies?
- 3) What percentage of these core competencies do you consider to be firm tradition ("we have always done this, so it must be a core competency")?
- 4) What is your firm doing to look at its businesses from top to bottom and making an assessment of performance and strategic fit with regard to the core competencies.
- 5) What types of personnel are involved in the process of identifying your firm's core competencies?
- 6) Do you elicit input from your customers in determining what they value most from acquiring your supply or service?
- 7) Did your firm use consultant resources when identifying its core competencies? Other outside resources?
- 8) Does your firm rely heavily on outsourcing (A firm's action of purchasing a component, assembly, or service from an outside supplier)?
- 9) Do you outsource any part of a particular core competency?
- 10) Do you evaluate your competitors' core competencies? How do the findings

effect what your firm considers as its own core competencies?

Background Information

- 1) What is the mission statement of your firm? Do you have a particular mission statement for the part of the firm with which you are associated?
- 2) What is the organization of the firm (organizational chart)?
- 3) How large is the firm in terms of personnel and dollar amount of current budget? Has there been any major change in the historical trends of these areas over the past five years (or more)?
- 4) Is there any other information about your firm that you feel would be significant to this research effort?

Method of Data Collection

In addition to discussions with key managers, I will review whatever documentation you can provide; such as meeting minutes, briefing presentations, operating instructions and/or other written documentation related to the above questions.

After an initial interview, I will review whatever written materials you can provide. Follow-on discussions will address questions that may arise from this review.

For the validity and reliability of this research, I must address all the above questions. However, discussions will be allowed to take their natural course according to the availability of respondents, information, and documentation.

To ensure accuracy on part of the researcher, once the case is written-up it will be sent to the respondents for review prior to publication.

Proprietary Information

It is the hope of the researcher that the firm can share all information regarding the research questions listed above. Proprietary information will be held in strict confidence.

Upon review of the case write-up by the respondents and prior to any publication, issues regarding proprietary data will be addressed. Upon request of the respondent, the case write-up may be sanitized at that time.

Appendix C. Within-Case Analysis

Introduction

This appendix is a presentation of the information gathered from field visits and follow-up communication via phone and electronic mail with the five participating companies used for this case study research. Most of the information presented was derived from personal interviews with individuals holding positions within upper levels of management. However, some information was taken from documentation provided by the companies.

This appendix is divided into five major within-site case study sections, one for each of the participating companies. As such each section will address only the information gathered at that particular company. The within-site case analyses are addressed in no particular order of importance. The presentation of each of the within-site cases follows a uniform and set format. Each case is divided into a background section and a main information section. The background section provides the general information about each company's size, organization, core competencies, and data sources used. The main information section revolves around five focus areas - Industry Knowledge, Customer Value, Skill Sets, Suppliers, and History and Evolution - which were developed from the five research questions previously mentioned in this thesis (see Chapter II). During the personal interviews there was information put forth that did not fit into any of the previously mentioned focus areas, but was interesting and worthy of pointing out. Therefore, a sixth area (other information) is included in the main information section.

Company A: Injection Molder

Background. This section provides general information about company A's size, organization, core competencies, and data sources used.

Size. Company A has annual revenues of approximately 4 million dollars. The company employs 45 people.

Organization. The company is made up of two main departments: "engineering manufacturing" and "manufacturing." Company A's engineering manufacturing department is made up of the engineers and support personnel required to provide its customers with such things as plastics engineering services. Company A provides its customers with engineering services that include tooling design and material selection for its customer's projects. Additionally, engineering manufacturing is charged with seeking new and better ways (i.e., lighter, faster, and cheaper) to produce durable parts for current and future customer projects. It would appear that engineering manufacturing's main focus is solving difficult injection molding problems for their customers. By accomplishing the day to day running of the injection tooling, the manufacturing department is responsible for manufacturing durable parts.

Core Competencies. The two individuals interviewed at company A stated that the company really only has one core competency -- Problem solving in the use of high performance materials. This core competency evolves the integration of engineering and manufacturing competencies needed for the injection molded products and services for a myriad of high performance materials. High performance materials include materials such as plastics and polymers. Whenever its customer's project requires the use of a material

with a reduced weight, lubricity and resistance to corrosives, and when temperature is critical, high performance materials are often better suited than metals.

Data Sources.

Personnel Interviewed. The President of Company A was the primary point of contact and the key interviewee. Additionally, a secondary interviewee was relied upon for portions of the information used in the analysis of Company A. This second interviewee was the senior technical engineer, founder, and former president of the company.

Documentation. In addition to the field interview, Company A's web page as well as information provided by electronic mail were used as data sources.

Main Information. This section revolves around the five focus areas -- Industry Knowledge, Customer Value, Skill Sets, Suppliers, and History and Evolution. Also, a sixth area for other information is discussed. The information in this section was open-coded using concept/mind-mapping techniques, (Novak, 1998:27 and Buzan & Buzan, 1994:139) see Figure 5.

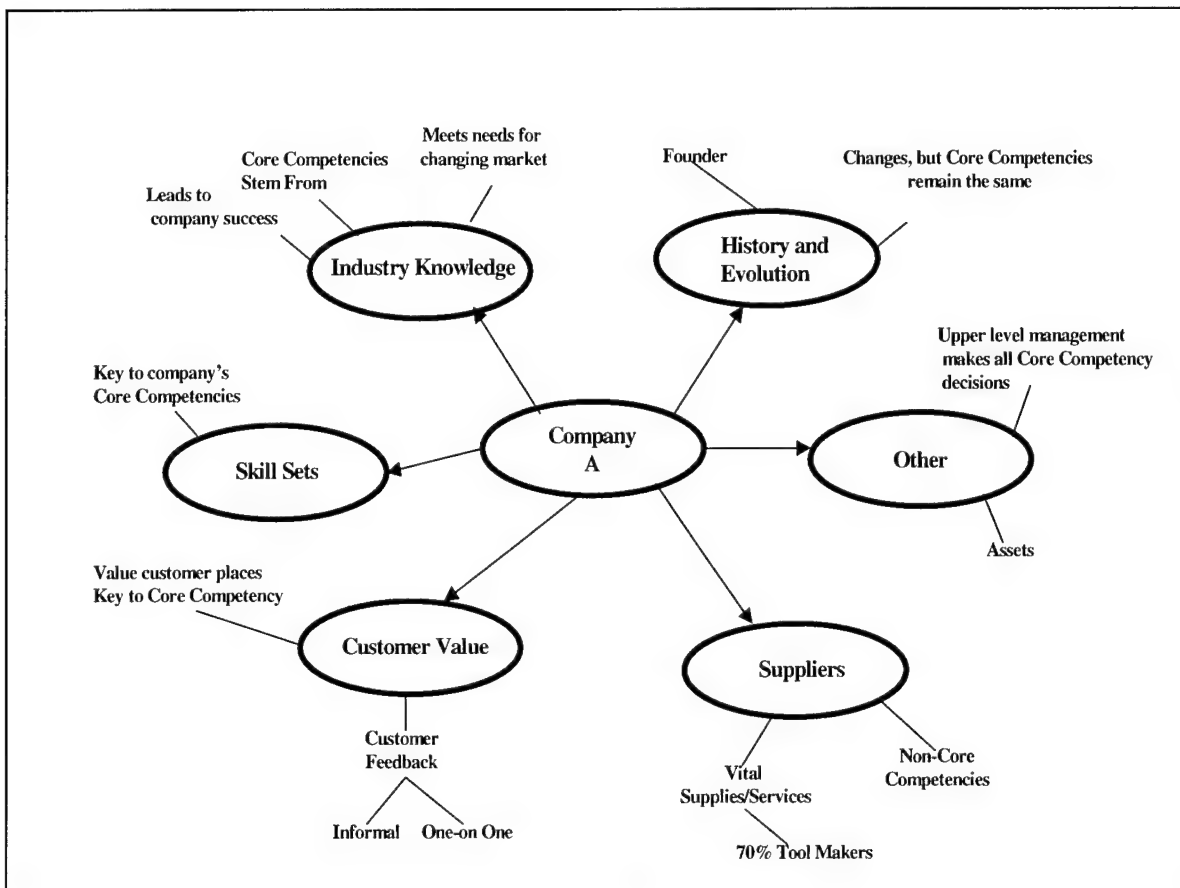


Figure 5. Within-Case analysis of Company A

Industry Knowledge. The interviewees stated that Company A's core competency stems from technical knowledge that few companies have when it comes to engineering and manufacturing injection molded parts with high performance materials. These high performance materials, are very exotic, expensive and difficult when making the required production runs. The interviewees declared Company A knowledgeable in both operating and production environments for these injection molded parts using high performance materials. Company A's customer's parts are often subjected to high operating pressures and temperatures which must be accounted for when producing the

parts. The interviewees also stated that the company's knowledge of the engineering and manufacturing aspects of these high performance materials has led to their success as a company. Therefore, if a specific segment of the market (high engineered polymers) was to dissolve, the interviewees agreed they would have to find another market segment. However, it was their opinion that the market would only "expand-up" using another high performance material. The companies current engineering and manufacturing knowledge would obviously benefit it as the company changed to meet this new market segment.

Customer Value. The interviewees at Company A stated that the value its customers placed on its ability to engineer and manufacture injected molded parts as well as providing service behind the parts was key to its stated core competency. Company A did not have a formal process by which it gathers customer feedback. However, the individuals interviewed felt that it was a non issue. The interviewees suggested that because of the company's small customer base, it was able to obtain informal customer feedback through an extensive amount of one-on-one time spent with each customer. The interviewees felt that the company's customers were willing to pay extra cost associated with a small highly skilled company because of its reliability for providing critical injection molded services and parts using high performance materials. Certain customers of Company A have stated that they could not get their normal supply base to reliably provide services and parts using certain high performance materials -- often leading to unsuccessful project completion.

Skill Sets. According to the interviewees, Company A has the engineering and manufacturing skills for solving injection molding difficulties that are present when using high performance materials in certain applications. The interviewees further stressed that

high performance materials are substantially more expensive than other material alternatives. However, the company was able to offset this increased material cost by reducing material usage and production waste using its higher skilled employees. It was suggested that Company A has the corporate skills needed to speedily design and manufacture durable parts with these high performance materials -- meeting key customer performance requirements. In addition to having individuals with the engineering skills needed to solve the unique problems associated with injection molding high performance materials, the interviewees stated that Company A has processing technicians on their shop floor that have skills “three cuts above” those found in other processing companies. The interviewees stated these skilled individuals are essential if the integration efforts of design, tooling, processing and materials technology are to culminate in providing the service and parts needed to meet difficult applications using high performance materials.

Suppliers. With few exceptions, Company A uses suppliers to supply it with all the high performance materials that are used in its day to day operations. The interviewees stressed that although Company A has knowledge with mixing components, the mixing of components is not a core competency and is therefore almost exclusively outsourced. Company A uses outside toolmakers to produce seventy percent of its tooling used in production – the designs for the tooling leads directly back to the companies core competency. However, outsourcing the tool making was viewed by the interviewees as a minimal risk to the company’s core competency. The interviewees stated, if a tool maker was to get a reputation of giving Company A’s tool designs to one of its competitors the tool maker would eventually lose its tool making business.

History and Evolution. The interviewees stated that Company A's core competency is a direct result of the founder's desire to meet a market need in which many processors (molders) in the late 1980's could not and did not want to meet. The identified market niche was the ability to use injection molding processes to mold parts using high performance materials. At the time, the founder of Company A was working for a company that had the opportunity to use injection molding processes instead of compression molding processes, but the company did not want to pursue these new opportunities. Company A's original business (and core competency to support it) in general evolved from the fact many processors did not want to be evolved in this market niche because of the difficulties involved in injection molding of the high performance materials. The interviewees stated that the materials (the company is currently experimenting with injecting metals) and equipment it uses has changed over time, but its core competency has not changed.

Other Information. Company A's interviewees stated that the personnel involved in making decisions on its core competency were all upper management level. Additionally, the interviewees stated that they were reluctant to use consultants to help perform core competency decisions -- only internal personnel know the company well enough to perform an important task such as core competency identification. However, they also stressed the importance of knowing what the market place wants. A company does not accomplish this on its shop floor -- it is gained by interfacing with its customers and its material and equipment suppliers. The interviewees stressed the need to stay on the leading edge of new technologies that are up and coming onto the horizon -- it will

allow Company A to use its core competency and capitalize on this new technology.

They also stressed an importance to know what are not the companies core competencies.

Company B: Diversified Energy Company

Background. This background section provides general information about Company B's size, organization, core competencies, and data sources used.

Size. Company B is one of the US's leading diversified energy companies. It serves more than 1.4 million electric customers and over 400,000 natural gas customers. Company B employees approximately nine thousand employees with revenues of approximately \$5.9 Billion.

Organization. Company B was created in 1994 with the merger of two electric and gas companies. As stated earlier, it is one of the largest diversified energy companies in the US and is a registered holding company subject to the Public Utility Holding Company Act of 1935. Company B's two main subsidiaries are both focused on public utilities (electric and gas). Additionally, Company B has other direct subsidiaries dealing with Services, Investments, and Global Resources. Company B conducts its operations through these subsidiaries, and it manages its company through four business units (Commodities, Delivery, Investments, and International).

Core Competencies. In 1999, one of the states in which Company B operates enacted a state bill that marked the transition into an environment of electric deregulation and customer choice for the state. The electric restructuring bill provided for a "market development" period. This period has created a competitive electric retail service market

that Company B must now react to. At the time of this case study, Company B was in the process of formulating a competitive strategy. This new market is giving way to a competitive environment in which the company is not accustomed to. As such, Company B's interviewees provided data that supported an era of change in the companies core competencies. The core competencies did not change per say, but there has been a refocusing of the core competencies -- brought about by the change in its markets reacting to deregulation. Below are Company B's core competencies as stated by the interviewees:

Technical: Company B's technical core competency includes generation, transmission, and distribution of electric power as well as distribution of natural gas. Deregulation has no real impact on Company B' technical competency. The interviewees stated that Company B has vast knowledge in this technical competency area.

Regulatory. The interviewees stated that Company B (due to the environment prior to deregulation) had developed a regulatory competency from years of compliance with both Federal and State public energy laws. Prior to deregulation, the company's only real way of increasing rates was to ask for and support new rates within the confines of the state energy laws. Its regulatory competency is now helping Company B navigate the new deregulated market. The Interviewees suggested this competency will be key in competing in this new competitive environment.

Financial. Prior to deregulation the interviewees stated that Company B had developed a core competency mainly in the area of accounting. Its accounting skills allowed for an accurate capture of all the company's costs elements. Accounting had developed into a critical need, especially when going before regulatory boards for rate

increases. Now that the company is in a competitive market it is no longer satisfactory to just add up and justify costs, the financial competency is now focused on efficiency and streamlining of costs.

Data Sources.

Personnel Interviewed. The primary points of contact and interviewees were both individuals in Company B's strategic planning department.

Documentation. In addition to the field interview, Company B's web page, electronic mail, financial, and annual reports were used as information sources.

Main Information. The main information section revolves around five focus areas, Industry Knowledge, Customer Value, Skill Sets, Suppliers, and History and Evolution. Also, a sixth area for other information is discussed. Information in this section was open-coded using concept (mind mapping) techniques (Novak, 1998:27 and Buzan & Buzan, 1994:139), see Figure 6.

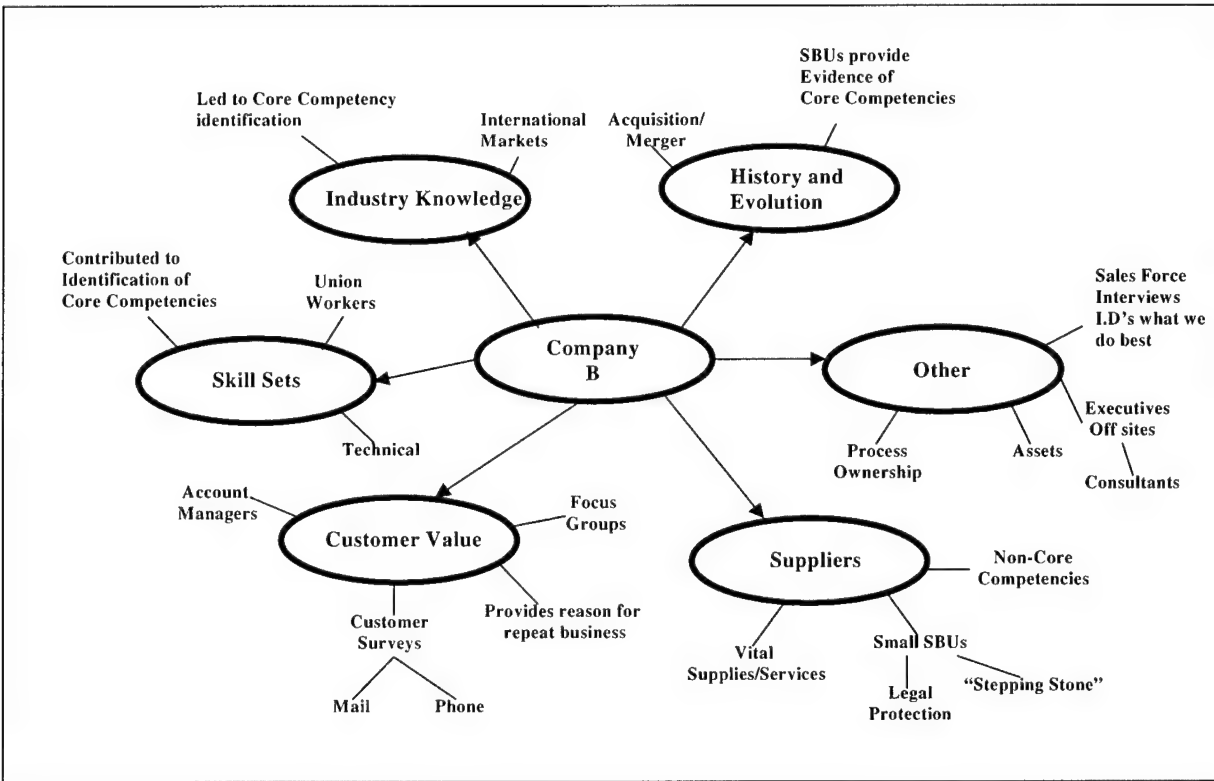


Figure 6. Within-Case analysis of Company B

Industry Knowledge. The interviewees suggested that Company B's industrial knowledge has lead to an identification of its core competencies. The company's knowledge of electric power generation as well as its knowledge in transmitting and distributing electric and gas has provided a competitive advantage in its reaction to the current competitive domestic energy market. The interviewees further stated that, the company's technical competency has allowed it to effectively enter the international energy market. Company B's development of regulatory knowledge is also seen as a competency by the interviewees. The company's experience with Federal and State laws prior to deregulation ensured its survival prior to deregulation– it was effective in

supporting rates increases when needed. Its regulatory competency is now helping Company B navigate the new deregulated market, and is therefore considered a core competency. The Interviewees suggested this competency will be key in competing in this new competitive environment.

Customer Value. Company B uses focus groups to look for additional “value-added” services or products it’s customers want. Additionally, the focus groups gather customer satisfaction ratings on current services or products provided by the company. Also, customer satisfaction surveys are randomly conducted by mail and by phone. Informal customer feedback is regularly solicited from Company B’s larger customers. Its larger customers have account managers who have the access to gather daily feedback. The interviewees felt that by coupling the customer input avenues with the feedback that company is starting to see in its new non-regulated market will be key in identifying why (competencies) its customers will stay with the company in the future. Additionally, they felt as the company’s percentage of revenues attributed to non-regulated activities increased, they would have to gain expertise in the area of marketing.

Skill Sets. The interviewees suggest that corporate skills can attribute to identifying a company’s core competencies – not all skills, but certain key corporate wide skills. Company B’s technical skills for generation, transmission, and distribution of electric power as well as transportation of natural gas is vested in the individuals they employ. The majority of the skills come from union employees. Company B has bargaining agreements with the international Brotherhood of Electrical Workers (IBEW), the United Steelworkers of America (USWA), the Independent Utilities Union (IUU), and various international organizations. As mentioned earlier, Company B’s regulatory

knowledge is built around the skilled legal staffs that the company currently employs. Additionally, not only has Company B's financial staff increased its accounting skills by dealing with the regulated energy market's "cost control" emphasis, it has become increasingly more important as the company expands into its investment business unit and the deregulated markets. The company now has a financial staff with skills that focus on efficiency and streamlining costs, which is directly impacting the companies top line growth.

Suppliers. Company B outsources several non-core functions for accomplishing the day to day operation of its company. The interviewees did state that the company sometimes outsources one or more of its core competencies when a particular business unit's capacity is unable to meet current demand. The interviewees further stated it normally uses legal agreements to protect itself from any of its suppliers gaining experience and developing a rival core competency. It should be noted that Company B nurtures and builds on one of its own core competencies by using outsourcing. As a competitive strategy, Company B is using outsourcing to its advantage. For instance, the company's international business unit is just now getting started and it has acquired power generation assets around the world. Company B is outsourcing the operations of the international power generation assets in order to gain knowledge specific to the international markets. Additionally, the company has outsourced power generation using wind mill farms in its endeavors to enter into alternative power generation markets. The company is in the process of using its contractors, like the wind mill contractor, to provide a "stepping stone" to learning, thus nurturing and adding to its technical core competency.

History and Evolution. As previously mentioned, Company B was created through the merger of two electric and gas companies that had all of the capabilities that the interviewees now state as its core competencies. Furthermore, the interviewees suggest that the capabilities gained through the company's other direct subsidiaries (Services, Investments, and Global Resources) that are managed by its four business units (Commodities, Delivery, Investments, and International) have directly attributed to its stated core competencies.

Other Information.

Assets. The interviewees stated that Company B has a solutions group that is mainly asset based and they felt that looking at assets is a good indicator of a core competency. The assets allow for developing partnerships with other companies in the area of cogeneration projects. This supports the company's technical competency.

Employee Interviews. Company B was going through a core competency identification effort in its non-regulated portfolio business units. This effort centered around a strategy of interviewing each individual portfolio business unit's sales team and asking two fundamental questions; 1) what causes you to win accounts from competitors, and 2) what causes you to loss accounts to competitors. This has helped Company B identify strengths (competencies) and weaknesses within this sector of its company. Not only does this interview approach help with identifying competencies, it also provides new opportunities for Company B. By looking at its weaknesses (non-competencies) and identifying a particular weakness that stretches across the spectrum of the portfolio business units, Company B can analyze non-competencies and determine if they are critical for competing in a particular market. If the weakness is critical, Company B can

then take the necessary steps to acquire the needed competency. If the weakness is not common across the spectrum of the seven businesses, Company B can then outsource the requirement to a “best-in-class” company if so desired.

Process Ownership. The interviewees stated that no one department had ownership for developing the company’s core competencies. The interviewees attributed this to a recent restructuring that basically brought about a philosophy of decentralization in which each business unit acts autonomously.

Off Sites. The interviewees stated that the company’s decisions about core competencies are usually made at the senior management level. The information to make these decisions is solicited throughout the company at all levels. Additionally, the company’s executives regularly attend off sites to discuss corporate strategy issues to include core competencies. The company sometimes hires consultants to help facilitate these off sites.

Company C:

Background. This background section provides general information about Company C’s size, organization, core competencies, and data sources used.

Size. Company C’s operation is estimated at approximately 2,000 employees with annual sales in excess of \$500 million.

Organization. Company C is a communication systems business unit, of a subsidiary of a larger command control, communication and information systems division of one of the world’s premier defense contractors. This business unit develops,

manufactures and supports products, systems and software that provide critical communications and battle management capabilities for land, sea, air and space applications.

Core Competencies. The interviewee stated that Company C has only one core competency -- providing communication solutions. This core competency involves the art of understanding a defense customer's mission requirement and the threats that keep the customer from communicating the way it wants.

Data Sources.

Personnel Interviewed. The primary point of contact and interviewee was the director of business development for the company interviewed.

Documentation. In addition to the field interview, Company C's web page, electronic mail, were used as information sources.

Main Information. The main information section revolves around five focus areas, Industry Knowledge, Customer Value, Skill Sets, Suppliers, and History and Evolution. Also, a sixth area for other information is discussed. Information in this section was open-coded using concept (mind mapping) techniques (Novak, 1998:27 and Buzan & Buzan, 1994:139), see Figure 7.

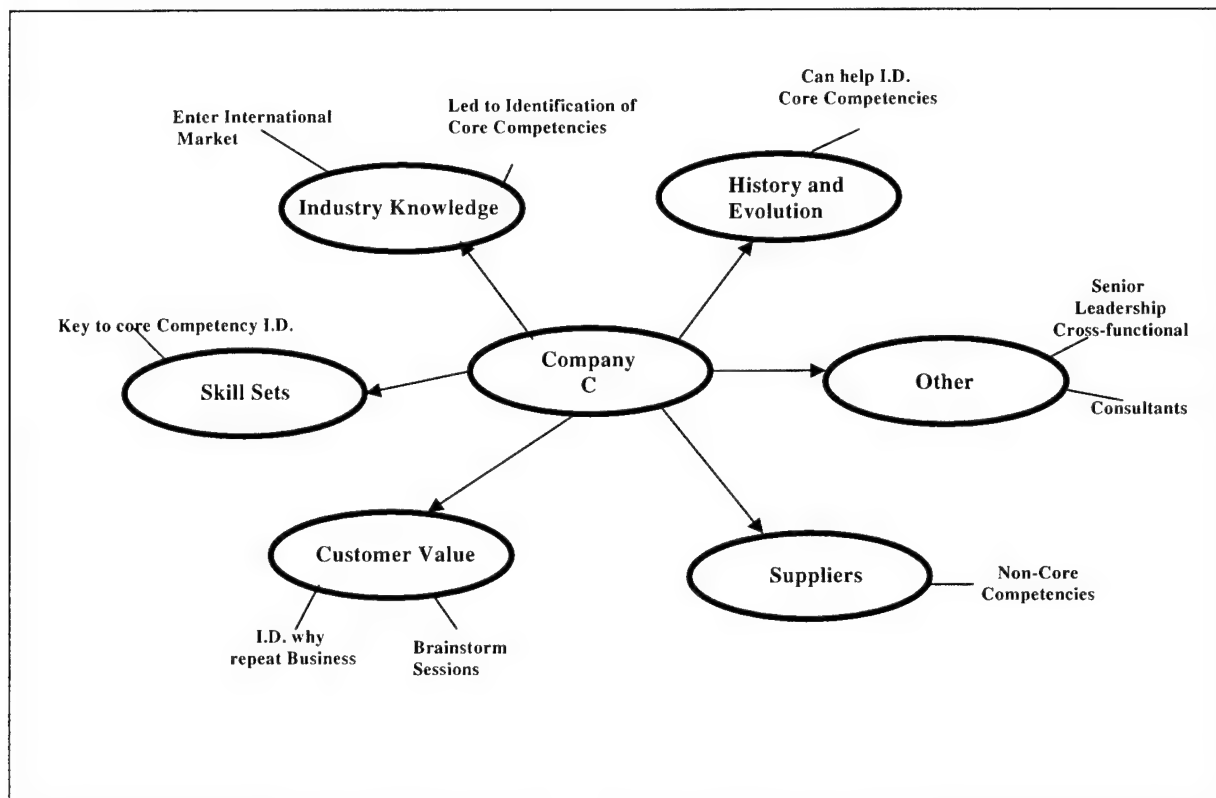


Figure 7. Within-Case analysis of Company C

Industry Knowledge. The interviewee suggested that Company C's knowledge in radio technology led to the identification of its core competency -- providing communication solutions. The knowledge was gained through years of experience building radios with the RF front ends that could spread across and hop the spectrum of radio frequencies -- this is an important aspect for military applications. It also gained knowledge critical to modem technology -- complex and high speed modems with the ability to work well in jamming environments. The company's knowledge is not only important in the engineering and manufacturing elements of radios but also in the overarching area of communication in general. As such, its knowledge of radios and

general defense related communication needs helped the company mature into a communications solution company -- not just a radio supplier.

Customer Value. The interviewee stated that getting feedback from the customer and determining why they come back as repeat customers is a good way of identifying its core competencies. As stated earlier, Company C is very sensitive to its customer's needs and more importantly to the changes in its customer's needs. Evidence of this sensitivity will be discussed below in the history and evolution section -- Company C identified the need to readdress how it defined its core competencies. Company C occasionally has all day brainstorming sessions with its customers. These sessions allow the company to identify customer satisfaction levels of its products and services.

Skill Sets. The interviewee stated that the engineering and manufacturing skills that Company C has developed applicable to communications -- radios in general - has significantly attributed to identifying its current core competencies. As the company's customer base started looking to the commercial sector for its communication needs, the company was forced to use the skills it had to recognize and capitalize on the new commercial technologies (i.e., cell phones). Its engineering and manufacturing skills were enablers to allow the company to better integrate its core products and services with commercially available products and services, thus meeting the demands of its customer base.

Suppliers. Company C outsources several non-core products and services for accomplishing the day to day operation of its company. Because of the need to shorten product cycle times, the interviewee stated that in some cases the company has had to outsource a critical indispensable service or product. This problem has come about from

an overall increase in information technology and it's effect on communication, the increase in usage of information by our society, and Company C's competitors -- cell phones and software defined radios are two examples. The interviewee stated that if the company starts acquiring a particular product or service repeatedly and the product and service is critical to a broad range of its customer's projects then it would consider acquiring the core competency to meet the particular demand. The interviewee stated that the company could do this by either training or purchasing (startup company) the key skills needed.

History and Evolution. The interviewee stated that it is important for a company not to get caught up in the trap of defining its core competencies as the service it provides or the product it produces. The interviewee went on to state that once upon a time Company C defined its core competencies in just that way. Company C's core product is radios with the RF front ends that can spread across and hop the spectrum of radio frequencies as well as other key components of a communication system -- like complex and high speed modems. As such, from a communication perspective the company had viewed its core competencies as the ability to build radios and components that made up the radios. Company C began to see its traditional market change. The defense market, Company C's conventional customer, began to look to the commercial sector for its communication solutions -- like cell phones, things Company C was not particularly good at producing. The company did not want its market base to decline, so it began to introspectively look at itself and readdress the topic of core competencies.

Other Information.

Consultant. The interviewee stated that sometimes a consultant can act as a facilitator and help a company understand and define what its core competencies are. The interviewee further stated using consultants can help a company from falling into the pitfall of identifying their core competencies as the products they make. The interviewee did state that a company should not use the consultant to actually do the identification, but rather use them as simply a facilitator -- outside consultants do not know the company's business.

Senior Leaders. The interviewee stated that it is typically the senior leaders that evaluate the company and identify what the core competencies are or should be. The interviewee further stressed the importance that this evaluation be conducted by a cross section of the company's senior leadership. Its not just general management, strategic planning, engineering, or business development it is a cross section that allows the company to look at its different disciplines and perspectives that will help it identify and develop its core competencies -- all the departments must get together.

Strategic Planning. The interviewee stated, when addressing the area of core competencies, the real problem does not necessarily lie in identifying what a company's current core competencies are, but instead it is to determine what core competencies are needed to meet the strategy set forth by senior leadership. The interviewee further stated, it is rather intuitive that there must be an identification of the current core competencies in order to make decisions on what additional core competencies are needed.

Company D: Crude Oil /Petroleum Products

Background. This background section provides general information about Company D's size, organization, core competencies, and data sources used.

Size. Company D refines, markets, and transports crude oil and petroleum products. Company D is located in 21 states with annual revenues over \$20 Billion and assets in excess of \$6.5 Billion. The Company employs approximately 28,217 employees. The company is one of the top 10 largest petroleum refiners in the petroleum business -- operates seven refineries with an aggregate refining capacity of 935,000 barrels per day. It manages one of the largest owner-operated chains of truck stops and is in the top 10 for combined fuel station network.

Organization. Company D is actually a consolidated subsidiary of a larger petroleum company -- for this research effort it will be referred to as a company. The company was formed through a merger in the late 90's. Two petroleum companies, through a Limited Liability Company Agreement (LLC), merged the major elements of their refining, marketing, and transportation systems. As such, Company D is focused on the downstream market segment of the petroleum industry. The term downstream means all petroleum products that go from the refinery down to the retail piece of the market (business, government, and individual consumer). Company D's downstream organization is made up of several operating units that include the refineries, fuel transportation (pipelines, trucks, ship, and barges) and terminals (light fuels, and asphalt), retail fuel stations (to include truck stops), and marketing. Additionally, Company D also

has an operating unit for business development. The business development operating unit acts in a coordinating role to evaluate future project opportunities (Alliances, divestitures, and acquisitions) for the company.

Core Competencies. The interviewee stated that the success of Company D can be attributed to the things they do best.

Refining. Company D has the refineries that provides for a refining capacity to process a wide variety of crude oils as well as producing typical refinery products to include reformulated gasoline. As such, the interviewee and the company see refining as one of its core competencies.

Logistics. The interviewee stated this core competency involves the skilled integration of the company's distribution system which includes the terminals, pipelines, transports (trucks), rail, and ship/barges -- the interviewee stated that technology has had a real impact on this area. New technologies have enabled the company to move the physical supply of the crude (inbound logistics) through the refinery and physically distribute the refined products (outbound logistics).

Marketing. The interviewee stated that the company was very good at marketing its products and services. In order to survive in today's market place, Company D not only sells its products in its wholly owned subsidiary retail operations, but through effective marketing the company has gained significant market shares for its products with independent retailers, airlines, railroads, utility and transportation companies. In addition to its fuel products, the interviewee provided information that suggested Company D's marketing competency has captured significant revenues through the sale of special products (i.e., asphalt). The information provided by the

interviewee suggested that no other US downstream competitor reaches the customer in as many ways as Company D's multi-tiered marketing set-up.

Data Sources.

Personnel Interviewed. The primary point of contact and interviewee was a corporate level manager from the company's business development operating unit.

Documentation. In addition to the field interview, Company D's web page, electronic mail, annual/financial reports, and company briefings were used as information sources.

Main Information. The main information section revolves around five focus areas, Industry Knowledge, Customer Value, Skill Sets, Suppliers, and History and Evolution. Also, a sixth area for other information is discussed. Information in this section was open-coded using concept (mind) mapping techniques (Novak, 1998:27 and Buzan & Buzan, 1994:139), see Figure 8.

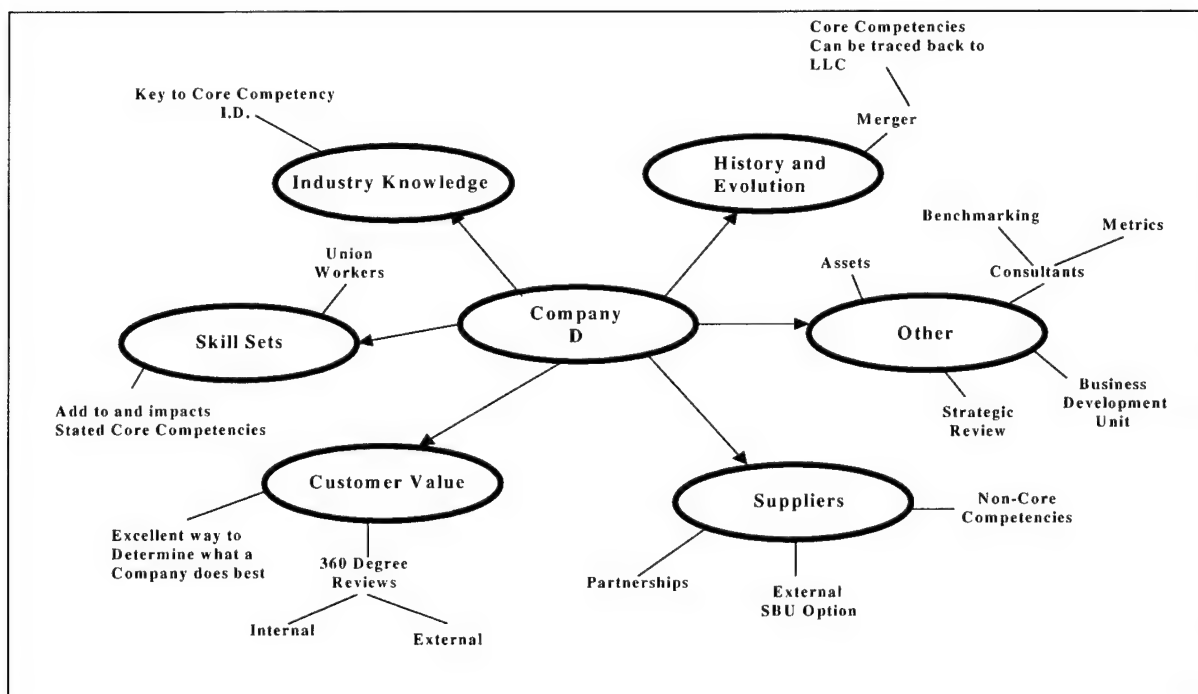


Figure 8. Within-Case analysis of Company D

Industry Knowledge. The interviewee stated that Company D's knowledge of the petroleum industry is a key contributor to its stated core competencies. Company D is the fourth largest refiner in terms of capacity and it operates the third largest terminal network in the US; both of these are linked together with the company's vast transportation network (which uses several transportation modes) which is a key element for the logistical competency. Its marketing operating unit has provided essential information for the company to gain knowledge in all areas of the industry.

Customer Value. The interviewee stated that customer (internal and external) feedback information is an excellent way of determining what the company does best (core competency).

In efforts to gather customer feedback, the company uses what it calls 360 degree customer reviews. The term 360 degree acknowledges the need, and provides for, customer feedback reviews with external customers as well as capturing customer feedback on issues within the company's internal operating units.

Skill Sets. The interviewee stated that Company D possess an enormous amount of engineering skill with the engineers it employees -- most in the refining and logistics areas. The skills possessed by its hourly employee's also added to its refining competency. The majority of the skills these individuals have, come from several trade unions. Company D employees are represented through several labor agreements -- agreements with the Paper, Allied-Industrial, Chemical and Energy Workers International Union, and International Brotherhood of Teamsters. The skills that the company processes in the retail market heavily impacts its logistics and marketing core competencies.

Suppliers. Company D outsources several non-core functions for accomplishing its day to day operations. Also, the interviewee stated that Company D allows its individual operating units to outsource any function if the unit can acquire the service or product from an outside supplier cheaper, better, or faster.

Partnership. The company is using a partnership arrangement to connect several pipeline networks. The interviewee stated that the agreement reached will protect and even increase the effectiveness of its logistic core competency.

History and Evolution. The interviewee suggested that the merger that formed Company D is without a doubt the single biggest contributor to the companies stated core competencies -- refining, logistics, and marketing. The success that the company is having in its market place can be directly linked to the efficiencies that were gained by the merger.

Other Information.

Consultants. Interviewee stated that the company uses consultants to benchmark off its competitors in the petroleum industry -- the company addresses each individual segment of the market. The company reviews the benchmarking data on a quarterly basis. This benchmarking is done on a regional basis as well as across company's entire market. Marketing can use the information to provide vital knowledge on each of its operating regions; this allows the company to specifically address each part of its business. For instance, the information can help the company to deploy its terminal assets differently (i.e., numbers of storage tanks, personnel, and transports). The interviewee stated that Company D uses metrics development from this benchmarking

approach to determine what it does better than its competitors -- core competency identification..

Strategic Review. The interviewee stated that Company D uses strategic reviews to take time out and look at its core competencies (identification). Senior managers and their direct reports get together and review what has occurred in the last six to twelve months. This allows senior management to perform a post analysis on its strategic and tactical operation plans -- stacking up all the feedback from reviews using the bottom-up approach as well all other company information (i.e., benchmarking data). Company D basically used a process that somewhat follows the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, its revised business models evolve out of this process; which continues to focus on efficiencies, core competencies and overall "value added" business opportunities.

Business Development. Company D has a business development operating unit that identifies and recommends economical/strategic value added opportunities for the company to pursue. For instance, the interviewee provided a historical example of when the company was evaluating a terminal construction project. Both internal and external (contractors) proposals were evaluated for completing the terminal project -- after the evaluation, the external source was awarded the project. The interviewee stated in the past it considered its engineering function as core competency . Over time, the tendency to use external sources to perform certain services or deliver certain products can lead to an understanding on what the company is good at doing (core competency identification).

Assets. The information provided by the interviewee suggests that the company's assets can contribute to identifying what the companies core competencies

are. The refineries, terminals, pipelines, and transportation assets provide for the company's success. The interviewee stated that the company's current assets have become even more important because of recent environment laws -- the entry barriers that any competitor faces in this industry are very high hurdles to scale.

Company E: Information Systems

Background. This background section provides general information about Company E's size, organization, core competencies, and data sources used.

Size. Company E is a market leader in providing Information Technology (IT) products and services to car companies and auto retailers. Company E provides the dealer management systems for over 40 percent of all cars sold in North America. The company employs over 4900 employees of which 2000 are working in the auto dealerships. The company's annual revenues exceed \$900 Million.

Organization. As stated above, Company E is a leader in IT products and services. The company's focus is on the auto industry market -- auto companies and retailers (dealerships). Company E's operations are conducted and managed through several strategic business units that focus on the auto companies and retailers. Company E provides its customers with a "back office" information management system. The information management system helps its customers manage such things as parts management, accounting and tax related functions, processing the sale of product, tracks and processes service appointments, and scheduling repairs. The information system also includes the information management hardware (i.e., computers and printers) and paper

products (i.e., forms) that are required. The company's business units are supported by support departments that include Sales, Finance, Human Resources, Strategic Development, Supply Management, and Marketing.

Core Competencies. Company E uses its core competencies to vertically focus only on the automobile industry. Below are Company E's core competencies as stated by the interviewee:

Sales. The interviewee stated that it's sales force is its frontline and means in which the company interfaces with its customers. The company views its sales force as a key part of the company. The sales force is a major part of why the company is so successful. The management of company E is continually auditing the skills of the people in its sales force, because it's the people that embody the competency.

Service/Support. The interviewee stated that the service and support skills that it processes are a core competency of the company. This includes all aspects of service and support for its software design function. This area includes the service needed on both the software and hardware of the information management systems. Company E supports all of its customers training needs.

Manufacturing/ Distribution.. Company E's manufacturing competency provides printed products that are required for its customers. Company E has two manufacturing facilities that manufacture the paper products. The interviewee also stated that the company has developed a critical distribution competency.

Financial Management. The interviewee stated that the financial skill that the company possesses has provided a dramatic improvement in the companies cash flow and balance sheets -- this was not the case in the past.

Data Sources.

Personnel Interviewed. The primary point of contact and interviewee was from the company's strategic development department.

Documentation. In addition to the field interview, Company D's web page, electronic mail, and company briefings were used as information sources.

Main Information. The main information section revolves around five focus areas, Industry Knowledge, Customer Value, Skill Sets, Suppliers, and History and Evolution. Also, a sixth area for other information is discussed. Information in this section was open-coded using concept (mind) mapping techniques (Novak, 1998:27 and Buzan & Buzan, 1994:139), see Figure 9.

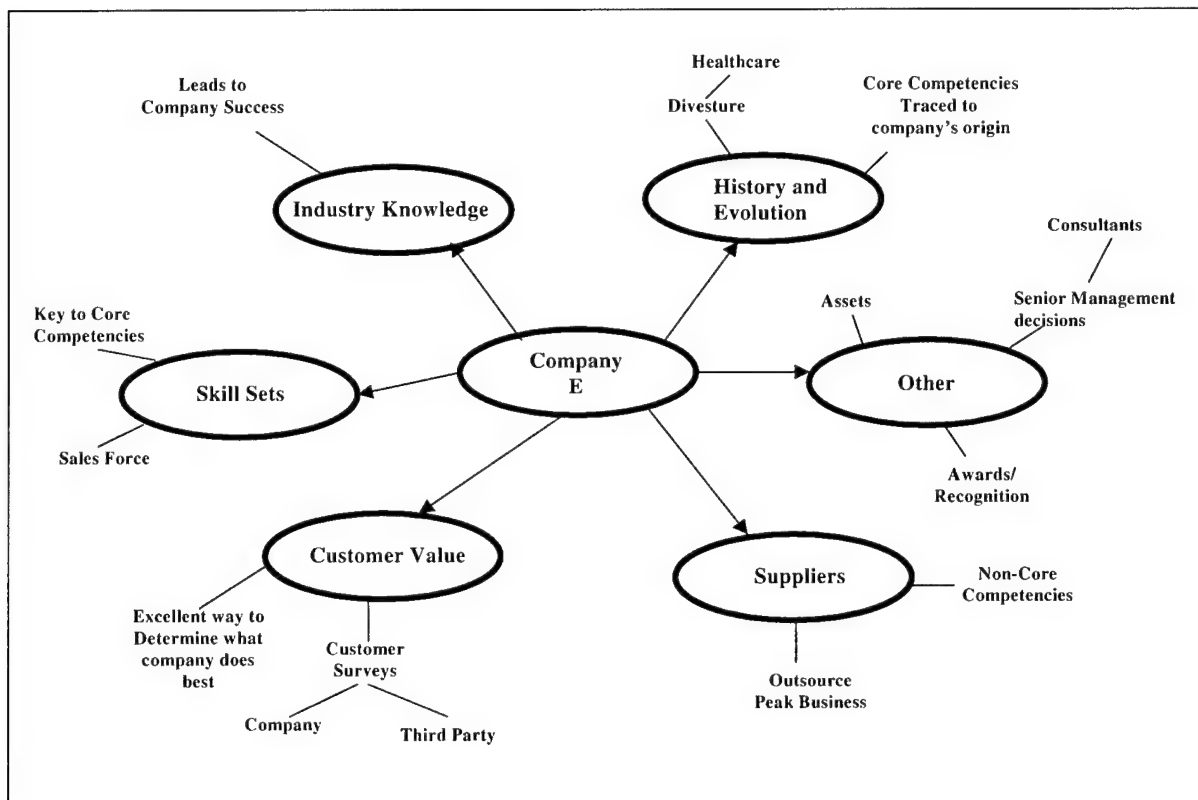


Figure 9. Within-Case analysis of Company E

Industry Knowledge. The information provided by the interviewee suggested that Company E has a deep market knowledge of how information is used by the auto industry and the knowledge of the industry has lead to its success. This knowledge has enabled the company to provide innovative, customer driven information management system products and services to car companies and retailers. Specifically, the interviewee stated that the company's sales force and service groups have a great understanding of the automobile industry -- this has been one of the key contributors to the company's success.

Customer Value. Company E conducts customer surveys on a regular basis. The company uses two approaches when conducting customer surveys; surveys are performed by the company and a third-party. The interviewee stated that the surveys provide insight into the company's competitive advantage as well as things that are associated with the company's image. Thus, when it comes to customer needs, the customer surveys provide information on what the customers value most. The company can identify its core competencies by evaluating what the customers value in combination with what the company is doing well.

Skill Sets. The information provided by the interviewee suggested that Company E has a highly skilled sales force. The interviewee also stated that Company E has an enormous amount of software engineering skill with the engineers it employs – this skill is key to the service/support competency. Additionally, the interviewee stated that the company employs individuals that are very proficient in the areas of computer training and service.

Suppliers. For its day to day operation Company E outsources several non-core products or services. The interviewee also stated that the company will on occasion outsource one of its core competencies. This is only done during peak times when extra resources are needed – usually software designers. The interviewee stated that it protects its competencies through contractual constraints placed on the contractor.

History and Evolution. Company E has been providing the automobile industry with information management systems - first paper based, then computer based - since the late 20's. The interview provided information that would suggest that the company's core competencies can be traced back to the origin of the company. In the late 90's the

company sold a portion of its business -- an information solutions group that was responsible for providing the information management systems to the health care industry. The interviewee stated that the company's core competencies were not successful when the company tried to expand into the healthcare industry.

Other Information.

Awards. The interviewee suggested that considering awards/recognitions the company has received is an excellent way to identify a core competencies. This is especially effective if the company has received an award/recognition for a particular service that reaches across several industries. For instance, an award that all support organizations competed for, not just the automotive industry.

Assets. The interviewee suggested that looking at the company's assets can support core competency identification. The interviewee stated it was clear that people within the company, especially the sales force, were key to the company's core competencies. The company has two printing facilities to support its manufacturing competency. Also, in the 90's the company established a national support center which has been recognized as an award winning technical assistance center. The support center is a center of excellence for training and customer support efforts, which provides the basis for another of the company's core competencies.

Consultants. The interviewee stated that consultants are used when the company is analyzing certain strategic issues -- one being identification of core competencies. The interviewee stated a consultant was used when the company decided to egress from marketing its products and services to the healthcare industry.

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Vita

Captain Richard E. Wells is a native of the great state of Illinois. He graduated from Lawrenceville High School in Lawrenceville, Illinois in 1981. He spent nearly six years in the U.S Air Force's enlisted ranks as a Medical Laboratory Specialist, serving most of those years at Lowry Air Force Base, Colorado. In 1993, he graduated from the University of Southern Illinois at Carbondale with a Bachelor of Science degree in Industrial Technology. He received his commission through the AFROTC Detachment 205 at the University of Southern Illinois at Carbondale.

His first assignment after commissioning was to the U.S. Army's Industrial Operations Command, Rock Island Arsenal, Illinois. As a member of the contracting directorate he served as a contract negotiator and contract administrator for medium caliber conventional ammunition and ammunition demilitarization areas. His first Air Force assignment was to Ogden Air Logistic Center, Hill Air Force Base, Utah. As a member of the contracting directorate, he served as executive officer to the Director of Contracting, contract negotiator, and was chief of contracting directorates unit control center. He also earned APDP-Contracting Level I and Level II certifications. In August 1999, he entered the Graduate Acquisition Management program, School of Engineering and Management, Air Force Institute of Technology. Upon graduation, he will be assigned to the B-1 Systems Program Office, Aeronautical Systems Center, Wright Patterson Air Force Base, Ohio.

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14. ABSTRACT The purpose of this research was to produce a set of prescriptions that will facilitate the process of <i>identifying</i> a USAF command's set of core competencies. Theoretical approaches to outsourcing show the need for an organization to identify its own set of core competencies; however, there seems to be no set way for this identification process to be accomplished. This research will provide critical information to approach this important task. USAF commands that can identify their core competencies (and subsequently act on them) will become leaders in the Department of Defense (DoD), with the potential to reshape the DoD through innovation and creative new defense strategies. As such, the end result of this research effort is that USAF commanders are now armed with a decision-making tool that will help them make critical decisions for identifying their command's core competencies.						
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